Sanitation and Hygiene in East Asia: Towards the targets of the Millennium Development Goals and beyond
Sanitation and Hygiene in East Asia:
Towards the targets of the Millennium Development Goals and beyond
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Abbreviations

ADB  Asian Development Bank
CBTS  Community-Based Total Sanitation
CLTS  Community-Led Total Sanitation
DANIDA  Danish International Development Agency
DFID  United Kingdom Department for International Development
DGIS  Netherlands Directorate-General of Development Cooperation
DHS  Demographic and Health Survey
DMCS  ADB Developing Member Countries
EASAN1  First East Asia Ministerial Conference on Sanitation and Hygiene
EASAN2  Second East Asia Ministerial Conference on Sanitation and Hygiene
EASAN3  Third East Asia Ministerial Conference on Sanitation and Hygiene
EASAN  East Asia Ministerial Conference on Sanitation and Hygiene Platform
GDP  Gross domestic product
IEC  Information, education and communication
IWA  International Water Association
JMP  WHO and UNICEF Joint Monitoring Programme for Water Supply and Sanitation
MDG  Millennium Development Goal
MICS  Multiple Indicator Cluster Survey
NEHAP  National Environmental Health Action Plans
OMN  Operations and Maintenance Networks
PHAST  Participatory Hygiene and Sanitation Transformation
TWG WSH  Thematic Working Group on Water, Sanitation and Hygiene
UNDP  United Nations Development Programme
UNEP  United Nations Environmental Program
UNESCAP  United Nations Economic and Social Commission for Asia and the Pacific
UNFPA  United Nations Population Fund
UNICEF  United Nations Children’s Fund
UNICEF/EAPRO  UNICEF East Asia and Pacific Regional Office
UNPD  United Nations Population Division
US$  United States Dollar
USAID  United States Agency for International Development
WHO  World Health Organization
WHS  World Health Survey
WSP  World Bank Water and Sanitation Program
Acknowledgements

The Thematic Working Group on Water, Sanitation and Hygiene (TWG WSH), the Ministry of Health of Indonesia and the World Health Organization (WHO) are grateful to all the institutions and individuals that participated in the preparation of this document.

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All of those at the country level that provided input based on the questions formulated through a template developed by WHO for this purpose are gratefully acknowledged. Specific acknowledgements are expressed at the end of each country profile.

Many thanks to Mr Khondkar Rifat Hossain of WHO headquarters, Mr Terrence Thompson, formerly of the WHO Regional Office for the Western Pacific and presently in the WHO Country office for Nepal, Dr Mohd Nasir Hassan of the WHO Regional Office for the Western Pacific, Ms Payden of the WHO Regional Office for South-East Asia, Mr Robert Bos formerly of WHO headquarters and Ms Mien Ling Chong formerly of the WHO Regional Office for the Western Pacific for their input. The work of Mr Jose Hueb, who collated the information and authored this document, is also greatly appreciated.
Two decades of efforts by national governments, international organizations, bilateral agencies, nongovernmental organizations and civil society as a whole contributed to an enhancement of awareness and the establishment of programmes and investment plans aimed at improving the levels of sanitation and hygiene in East Asia countries. This concerted effort resulted in sanitation coverage almost doubling, from 36% in 1990 to 69% in 2010, with over 800 million people gaining access to improved sanitation during this period. Thus East Asia as a whole has achieved the Millennium Development Goal (MDG) sanitation target, and it is projected that this target will be exceeded by 8% in 2015.

Despite this impressive progress, nearly 700 million people in East Asia still do not use improved sanitation facilities. Those not served, which represent more than one third of the regional population, remain vulnerable to severe sanitation-related health risks. Consequently the region is still plagued with 450 million cases of diarrhoea every year, which take up a considerable share of the hospital beds and which cause the deaths of nearly 150 000 annually (WHO, 2011). If current trends are confirmed, universal coverage with improved sanitation will not be achieved for urban and rural areas in East Asia before 2036 and 2033, respectively.

Against this backdrop, the East Asia Ministerial Conference on Sanitation and Hygiene (EASAN), organized biennially, represents an important initiative to promote the sanitation and hygiene agenda at regional and country levels. EASAN3, which was hosted by the Government of Indonesia from 10 to 12 September 2012 and supported by various national, multilateral and bilateral organizations, reaffirms the ministerial declarations made in previous EASANs to support sanitation development.

This report synthesizes the status of sanitation for the South-East and East-Asia countries following the EASAN3 meeting. It provides more insights on the status of sanitation in the region and supplements the two global reports, i.e. WHO/UNICEF Joint Monitoring Programme Report, which provides the analysis and assessment of all countries in relation to the MDG Target 7C, and the GLASS Report, which provides the analysis and assessment of financial and human resource investment on the water and sanitation sectors.

It is hoped that this report will bring about renewed commitment for accelerating investments in the building of improved sanitation infrastructure with an emphasis on sustainability and affordability so to elevate the privacy and dignity of the populations served.
It is also hoped that EASAN will continue to grow in strength and commitment and that there will be greater exchange of information through the establishment of suitable mechanisms and sound sanitation sector monitoring and assessment programmes and the creation of necessary tools and training packages to further enhance the achievements of the past decade in an effort to realize the goal of universal coverage and improved sanitation by 2015.

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PART 1

Regional Analysis
1 Introduction

1.1 Background

The First East Asia Ministerial Conference on Sanitation and Hygiene (EASAN1), held in Beppu, Japan, from 30 November to 1 December 2007, was attended by 135 participants, including high-level delegates from 13 East Asia countries. Other attendees included officials from the Government of Japan and civil society representatives from the Republic of Korea. Representatives of the major external support agencies, nongovernmental organizations, resource people, members of the media and private sector professionals also attended.

It was aimed at promoting national action to accelerate investments towards the achievement of the sanitation-related MDG target. This crucial meeting established a regional platform for cooperation in sanitation and hygiene, which included recurrent East Asia ministerial conferences on sanitation and hygiene and a process of cooperation among the region’s countries. It was decided that these conferences would be held biennially (WHO, the World Bank Water and Sanitation Program [WSP], UNICEF, 2008).

This major conference was followed by the Second East Asia Ministerial Conference on Sanitation and Hygiene (EASAN2), which was hosted by the Government of the Philippines in Manila from 27 to 29 January 2010. This meeting was attended by 160 participants, including high-level representatives from 13 East Asia countries that subscribed to this initiative.

Both meetings generated ministerial declarations in support of sanitation development (Annexes 2 and 3). These
meetings also generated a Regional Action Plan for Sanitation and Hygiene in East Asia, which is to be discussed and updated during each ministerial conference (see Annex 4 for current version).

An important decision taken at EASAN1 was the establishment of a regional platform for cooperation in sanitation and hygiene. The main functions of this platform included the biennial organizing of EASANs and resolutions endorsed by the ministers of state attending these important events. At EASAN2, a more detailed set of functions was agreed for the regional platform. They were:

- Continue organizing regional forums for exchange of information and ministerial conferences to stimulate sanitation promotion, policy-making and sanitation improvement at the country level.
- Establish suitable mechanisms for the exchange of technical and strategic information on sanitation improvement.
- Support Member Countries in establishing sound sanitation sector monitoring and assessment programmes capable of generating reliable information for policy-making, strategic planning and programming.
- Create tools, training packages and organize workshops for training trainers on sanitation issues of common interest to Member Countries.

At the Manila conference, the Thematic Working Group on Water, Sanitation and Hygiene (TWG WSH) was called upon to support the respective organizers of the different successive EASAN conferences. Under this agreement, the secretariat and administrative arrangements for EASAN would reside with the host country until the next conference, with the TWG WSH providing technical support as appropriate. Further, the EASAN conferences would have a rotating secretariat hosted by one of the Member Countries to be established at each regional forum. Consistent with this decision, EASAN3 is being hosted and organized by the Government of Indonesia in Bali from 10 to 12 September 2012. Figure 1 shows the functioning of the EASAN process and how it relates to the TWG WSH.
1.2 What is this document about?

This document includes two major parts. Part 1 deals with a regional analysis of the sanitation sector involving the 16 countries of Eastern Asia and Southeast Asia as defined by the United Nations Statistics Division.¹ It includes the analysis of sanitation coverage and the key aspects of health and hygiene in the region. It includes also an analysis of the sector trends for the whole East Asia region and basic recommendations to advance the sanitation agenda accordingly.

Part 2 deals with a summary of the status of sanitation in 10 key countries: Cambodia, China, Indonesia, the Lao People’s Democratic Republic, Malaysia, Mongolia, Myanmar, the Philippines, Thailand, and Viet Nam. These analyses are not exhaustive. More detailed information from different national or international sources should be required by the users of this document for a more comprehensive perspective of the sanitation sectors in these countries.

¹ The East Asia Region comprises Eastern Asia and Southeast Asia. The 16 East Asia countries are included in the statistical analysis of Part 1: Brunei Darussalam, Cambodia, China, the Republic of Korea, Indonesia, Japan, the Lao People’s Democratic Republic, Malaysia, Mongolia, Myanmar, the Philippines, the Republic of Korea, Singapore, Thailand, Timor-Leste, and Viet Nam. Not all these countries have participated in EASAN conferences.

The TWG WSH is one of seven intercountry working groups established under the Charter of the Regional Forum on Environment and Health in Southeast and East Asian Countries. The charter was adopted in 2007 by ministers and heads of delegations of 14 countries through the Bangkok Declaration on Environment and Health. The other thematic groups are:

- Air quality
- Solid and hazardous waste
- Toxic chemicals and hazardous substances
- Climate change, ozone depletion and ecosystem changes
- Contingency planning, preparedness and response in environmental health emergencies
- Health Impact Assessment.

The objectives of the thematic groups are as follows: exchanging technical information, coordinating activities, conducting advocacy and mobilizing resources for environmental health development. The Chair of the TWG WSH is provided by the Chinese Center for Disease Control and Prevention. The Chair rotated to the Philippines Department of Health in 2013.

Regional Forum on Environment and Health are the following:

- Ministerial Regional Forum: held every three years.
- International Partners: invited to contribute resource people to the regional forum.
- Thematic Working Groups: comprise the topics indicated above.
- Advisory Board: comprises the chairs of TWGs and the Chair and Vice-Chair of the regional forum.

The four major functions of the TWG WSH are as follows: knowledge management and technical support; progress reporting to the regional forum; coordination and advocacy; and resource mobilization. A three-year workplan of the TWG WSH has been elaborated (current period: 2010–2013), which is eventually revised at the annual meetings of the TWG WSH membership. Such a workplan includes support to the organization of the recurrent EASAN conferences.

Source: UNEP (2012).
Most of the statistics on the use of improved sanitation were derived from the WHO and UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) through its 2012 global revision (WHO and UNICEF, 2012). The sector aspects described in this document mostly are based on the information provided by the focal persons of the TWG WSH through a specific template sent to each of the TWG WSH Member Countries. Some of the social and health data were extracted from WHO’s statistics system. Gross domestic product (GDP) per capita statistics were extracted from the World Bank’s database. The recommendations of this document are derived from the input provided by the countries through the foregoing sanitation country templates and previous EASAN events.

As indicated above, the statistics on sanitation coverage in this report were derived from the JMP reporting system as opposed to official government statistics. The reason for this approach is that the latter information often does not allow comparison among countries. In addition, while the definition of adequate sanitation can vary enormously from country to country, the national statistics frequently do not allow the analysis of coverage trends. As a consequence, the national statistical analyses conducted through the use of the JMP coverage data may differ from those performed using official national statistics.

By having a standard definition for improved sanitation, which is applied to all countries, the JMP allows the comparison of statistics between countries, coverage trend analysis and a regional consolidation of the coverage data.

### 1.3 Objectives of this document

- To provide an overview of the sanitation and hygiene status in East Asia based on reliable national and international sources.
- To provide a summary of the sanitation and hygiene status in each EASAN focal country based on both information from authoritative sources at the country level and international databases.
- To review important sanitation and hygiene initiatives in the region and suggest ways of coordinating international cooperative efforts towards sanitation and hygiene development.
- To review the status of the EASAN sanitation and hygiene platform and provide elements for discussion on further developments.
1.4 Countries participating in this analysis

The 16 East Asia countries are included in the consolidated regional analysis of sanitation coverage. Individual summary profiles were prepared for 10 countries which provided information through a specific template for data collection sent to the national TWG WSH focal persons. They are Cambodia, China, Indonesia, the Lao People’s Democratic Republic, Malaysia, Mongolia, Myanmar, the Philippines, Thailand and Viet Nam.

1.5 For whom this reported was prepared?

This report should be viewed as a resource document for EASAN3. It is intended for policy- and decision-makers, planners and consultants, bilateral and multilateral agency staff, researchers and overall sector professionals throughout the region.
2 What is basic sanitation and what is actually measured?

The MDG sanitation target aims at halving, by 2015, the proportion of population without sustainable access to basic sanitation. Considering the unavailability of the statistical elements that would allow the measurement of access to basic sanitation, the JMP uses a proxy: the assumption is that the types of sanitation facilities adopted as “improved” are more likely to fulfil the requirements of a “basic” sanitation facility than the “unimproved” facilities. Improved sanitation facilities normally should reduce the risk of faecal-oral transmission to its users. Table 1 indicates the groups of sanitation practices or services divided between those that are improved and those that are unimproved according to the JMP and to the Millennium Development Goal (MDG) original definition of improved sanitation.

The concept of basic sanitation was devised by Lenton, Wright and Lewis (2005) within the United Nations Millennium Development Project (see Annex 5) as being the lowest-cost option for securing sustainable access to safe, hygienic and convenient facilities and services for excreta and sullage disposal that provides privacy and dignity while ensuring a clean and healthful living environment both at home and in the neighbourhood of users.
Table 1. Groups of sanitation categories according to the JMP and to the MDG definition of improved sanitation

<table>
<thead>
<tr>
<th>Groups of sanitation categories according to the JMP</th>
<th>Categories of services</th>
<th>Grouping according to the MDG definition of improved sanitation</th>
</tr>
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<tr>
<td>Improved sanitation facilities*</td>
<td>Flush or pour-flush to:</td>
<td>Improved sanitation facilities</td>
</tr>
<tr>
<td></td>
<td>▪ piped sewer system</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ septic tank</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ pit latrine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ventilated improved pit latrine (VIP)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pit latrine with slab</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Composting toilet</td>
<td></td>
</tr>
<tr>
<td>Sharing improved sanitation facilities</td>
<td>Same as above but shared by one or more households.</td>
<td></td>
</tr>
<tr>
<td>Unimproved sanitation facilities (other unimproved)</td>
<td>Flush or pour-flush to elsewhere**</td>
<td>Unimproved sanitation facilities</td>
</tr>
<tr>
<td></td>
<td>Pit latrine without slab or open pit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bucket latrine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hanging toilet or hanging latrine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No facilities or bush or field (open defecation)</td>
<td></td>
</tr>
<tr>
<td>Open defecation</td>
<td>Absence of sanitation facilities.</td>
<td></td>
</tr>
</tbody>
</table>

* Only facilities that are not shared or public are considered improved.
** Excreta are flushed to the street, yard or plot, open sewer, a ditch and a drainage way.
Source: Based on WHO, UNICEF (2008)

The implication of this widespread accepted definition is that access to basic sanitation cannot be measured through the existing population-based surveys. For example, these surveys cannot capture the issue of sustainability or preservation of the environment and most of the other elements intrinsic to this definition. And they do not capture the issues of safety, privacy and dignity. More thought needs to be given on how to address these issues. A possible alternative might be the combination of the current population-based surveys with other types of surveys that would provide additional information required to generate a more precise perspective of the status of sanitation at country level. The consequence of not doing so is the perpetuation of the current mechanisms for data collection, which do not allow a complete and authoritative analysis of sanitation progress over time.
3 Regional status

3.1 Status of sanitation coverage in East Asia

3.1.1 Current and past coverage

The proportion of people using some type of improved sanitation in East Asia experienced an increase of 33% from 1990 to 2010 (Figure 2). In rural areas, such an increase reached 35 percentage points against 16 percentage points in urban areas.

A total of 818 million people in East Asia gained access to improved sanitation facilities from 1990 to 2010 (Figure 3). This is equivalent to providing services to about 112 000 people every day during the same period.

The population in East Asia sharing improved sanitation facilities increased from 1990 to 2010 in the same proportion that the numbers of people using other types of unimproved facilities decreased over the same period (Figure 4).

A total of 115 million people that used to practise open defecation in 1990 had stopped doing so in 2010. This means a great advance in good health and hygiene as open defecation is hazardous to health, deleterious and lacking in dignity and should not be allowed in any nation that respects the rights of their people to dignity and social development.

Five countries in East Asia have a proportion of people using improved sanitation in rural areas less or equal to 50%. These countries
Figure 2. Improved sanitation coverage, East Asia, 1990, 2010

Despite the doubling of sanitation coverage in East Asia from 1990 to 2010, three of 10 people in the region remain unserved. During the same period, the disparity between the proportion of urban and rural served has been reduced by half, from 39% to 20%.


Figure 3. Population using and not using improved sanitation, East Asia, 1990, 2010

The numbers of people not using improved sanitation in East Asia was reduced by 459 million from 1990 to 2010. Despite such a major achievement, the population without access to improved sanitation remains exceedingly high, nearing one third of the total.


Figure 4. Population with different sanitation practices, East Asia, 1990, 2010

Open defecation in East Asia, although reduced to half of the 1990 figure, is still practised by 106 million people.

are Cambodia, Indonesia, the Lao People’s Democratic Republic, Mongolia and Timor-Leste (Figure 5). With regard to urban areas, all of the countries have improved sanitation greater than 60%.

3.1.2 Where are the unserved?

The huge proportion of people not served with improved sanitation in China and Indonesia compared with the totality of the unserved in East Asia should be viewed within the perspective of the enormous populations of these two countries. The total population of

Figure 5. Proportion of people using improved sanitation in East Asia countries, urban and rural areas, 2010

The widest disparities between urban and rural coverage occur in Cambodia and Mongolia. The urban coverage is more than the double of the rural coverage in both countries.


Figure 6. Contribution of each East Asia country in the composition of the total East Asia population without access to improved sanitation facilities, 2010

China and Indonesia are home to 92% of the unserved in East Asia.

China and Indonesia represents 74% of East Asia’s population and these countries are home to 92% of those not using an improved sanitation facility in the region (Figures 6 and 7).

The disparity between urban and rural proportions of people not served with improved sanitation was considerably reduced over the last 20 years from 39% to 20% (Figure 8). Although it seems that there is faster progress in rural areas, where the proportion of people using improved sanitation more than doubled, the progress in urban areas was even more impressive considering that the urban population in East Asia almost doubled whereas the population in rural areas decreased over the same period (Figure 14).

### 3.1.3 Achieving the MDG sanitation target (according to the JMP statistics)

The good news is that East Asia as a whole has achieved the MDG sanitation target. According to the projections of improved sanitation coverage, the MDG target of 68% will be exceeded by 8% in 2015 (Figure 9). This marks a huge change from the evaluation conducted for EASAN2, where it was indicated that the MDG sanitation target would be missed by 6%.

The difference from the 2010 assessment conducted for East Asia and the current assessment is that the JMP, based on new evidence, revised the coverage statistics for the East Asia countries in its new 2012 revision (WHO and UNICEF, 2012). As a result of this revision, the coverage statistics for China for the baseline year (1990) changed substantively from 41% to 24%. As a consequence, the MDG sanitation target for the region, which was estimated in the EASAN2 document (WHO, 2010) as 74%, has been estimated in this report as 68%. Similarly, the 2015 projection...
of sanitation coverage for the whole region changed from 68% in the previous report to 76% in the current report.

It should be noted that the shift from no achievement of the MDG sanitation target as evaluated at EASAN2 to exceeding the target at EASAN3 was not caused necessarily by huge investments and great efforts. It was simply a change in the statistics of a few countries based on new evidence.

Although there is no international or national commitment for urban and rural targets for the MDGs, projections have been made in this report and the targets have been calculated to check whether the hypothetical targets for urban and rural sanitation coverage separately would be met in 2015. The result of this analysis is that both the urban and rural MDG sanitation targets would be met (Figures 11 and 12).

The MDG sanitation target for East Asia was met in 2010. Despite such a major achievement and, in order to keep this status, there will be a need to provide improved sanitation services from 2010 to 2015 to at least 6 million people annually. Considering that over the past two decades a total of 41 million people gained access annually, it is clear that the 6 million
target will be largely exceeded (Figure 12).

If the current sanitation coverage trends are confirmed, the total population using an improved sanitation facility by 2015 will be almost triple of what it was in 1990. Nevertheless, universal coverage will be a distant reality given the projections based on the trends during the period 1990–2010 (Figure 13).

Table 2 displays the status of sanitation in 2015 if current trends are maintained. Most countries in East Asia will achieve the MDG sanitation target. It is, however, important to emphasize that despite major progress in providing services to the unserved, one fourth of the population will still be using unsanitary, unimproved sanitation facilities in 2015.
An explanation on the method used in this report to project coverage estimates and to calculate the MDG sanitation targets:

Coverage projections were made for urban and rural populations in each country through linear regression based on the 1990 and 2010 figures provided by WHO/UNICEF (2012). Projections to 2015 were made separately for urban and rural areas. Where the projections indicated coverage beyond 100% in 2015, the numbers were corrected to 100%. The urban and rural projections to 2015 for each country were then aggregated for all of East Asia separately for urban and rural areas. These national figures were then aggregated into a 2015 projected coverage figure for the whole region. If, as opposed to that, the 2015 projected coverage was based on the whole region coverage estimated for 1990 and 2010, we would not be correcting the coverage figures over 100% for some urban and rural settings in some countries.

The calculation of the MDG sanitation target for each country followed a slightly different approach. We stuck to the MDG sanitation target formulation, which is to halve the proportion of people without access to sustainable sanitation (improved sanitation in this case). For each country, this formulation was applied separately to urban, rural and national areas. Then, obviously, the rural and urban aggregation could not match with the national MDG sanitation target. The same concept applies to the whole East Asia region, where the MDG sanitation targets were calculated independently for urban, rural and the entire region.

<table>
<thead>
<tr>
<th>Country</th>
<th>Total improved sanitation coverage (%)</th>
<th>Urban improved sanitation coverage (%)</th>
<th>Rural improved sanitation coverage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Projected to 2015</td>
<td>Required to achieve the MDG target</td>
<td>Excess or gap in achieving the MDG target</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>37</td>
<td>55</td>
<td>-18</td>
</tr>
<tr>
<td>China</td>
<td>74</td>
<td>62</td>
<td>12</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>59</td>
<td>66</td>
<td>-7</td>
</tr>
<tr>
<td>Japan</td>
<td>100</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td>71</td>
<td>59</td>
<td>12</td>
</tr>
<tr>
<td>Malaysia</td>
<td>98</td>
<td>92</td>
<td>6</td>
</tr>
<tr>
<td>Mongolia</td>
<td>51</td>
<td>75</td>
<td>-24</td>
</tr>
<tr>
<td>Myanmar</td>
<td>97</td>
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<td>Thailand</td>
<td>98</td>
<td>92</td>
<td>6</td>
</tr>
<tr>
<td>Timor-Leste</td>
<td></td>
<td></td>
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<tr>
<td>Viet Nam</td>
<td>85</td>
<td>69</td>
<td>16</td>
</tr>
<tr>
<td>Region</td>
<td>76</td>
<td>68</td>
<td>8</td>
</tr>
</tbody>
</table>

On track: Above MDG target or at least above -5% of MDG target
Not on track: Less than -5% of MDG target
Information insufficient to calculate the MDG sanitation target.

3.2 Population, health and development

3.2.1 Population

The East Asia population, at the same time that it underwent major urbanization, also experienced a reduction in rural population during the period 1990–2010. Although the population of the region is still predominantly rural, such status will be reversed by 2015 (Figures 14 and 15).

The total population of the region represents over 30% of the world population.

**Figure 14.** Population in East Asia, urban, rural, 1990, 2010, 2015 (projected)

![Population in East Asia, urban, rural, 1990, 2010, 2015 (projected)](image)

Source: Country population from UNPD (2010)

**Figure 15.** Percentage increase in population in East Asia countries from 1990 to 2010

While countries such as China, Japan and the Republic of Korea kept their population growth below 20% over the last two decades, countries such as Brunei Darussalam, Malaysia, the Philippines and Timor-Leste had their populations increase over 30%.

![Percentage increase in population in East Asia countries from 1990 to 2010](image)

Source: Country population from UNPD (2010)
3.2.2 GDP per capita

The GDP per capita in East Asia increased by almost 200% from 1990 to 2010. Such huge financial progress, coupled with the international and national commitments to accelerate investments in sanitation, may partly explain the achievement of the MDG sanitation target in the region.

Source: Country population from UNPD (2010)

3.2.3 Health

WHO estimates that almost 10% of the global disease burden could be prevented by improving the water supply, sanitation, hygiene and management of water resources (Prüss-Üstün, et al., 2008). Not only can it prevent endemic diarrhoea, adequate sanitation can help to prevent intestinal helminthiasis, giardiasis, schistosomiasis, trachoma and numerous other important infections (Bartram, Cairncross, 2010). Toxic effects of naturally occurring and man-made chemicals in drinking-water also add to the heavy burden of water-related diseases.

Climate change is expected to exacerbate water and health linkages through increases in
floodling and drought, increased concentration of toxins, pathogens and salinity in water sources, and a reduction in the availability of water supplies for personal hygiene (TWG WHS, WHO Regional Office for the Western Pacific, 2009).

The subsequent sections of this chapter deal with crucial issues that are closely related to sanitation, water and hygiene.

**Life expectancy**

All of the countries in East Asia witnessed the life expectancy at birth of their citizens improve considerably from 1990 to 2009 (Figures 17 and 18). A main reason why this happened has been efforts to tackle the causes of this problem—access to improved water supplies and basic sanitation—and improve children’s chances of survival over the last two decades.

Since life expectancy in a given country is calculated as an average, the general increase in life expectancy at birth has a great influence in the overall life expectancy index. Thus, when small children die, it has a greater influence on the average than when adults die.

---

2 Region’s life expectancy weighted by population.
Under-5 mortality rate

Considerable progress has been achieved in East Asia to reduce the under-5 mortality rate over the last two decades (Figure 19). However, the mortality of under-5 children remains exceedingly high in several East Asia countries (Figure 20).

Diarrhoeal diseases still represent an important cause of child deaths in most countries of the region. Such diseases, in turn, are closely related to the nonavailability of basic sanitation and safe drinking-water, especially to the poor in lower-income countries. Improved sanitation services, better hygiene behaviour and access to safe drinking-water are crucial in reducing child mortality and extending the life expectancy of children.

Incidence of diarrhoeal diseases

Diarrhoeal morbidity and, consequently, diarrhoeal mortality, are largely preventable through the use of basic sanitation, good hygiene behaviours, safe water supplies and food safety (Figure 21).

About 450 million cases of diarrhoea occur each year in East Asia and the number of deaths because of such water-related diseases reaches nearly 150 000 a year (WHO, 2011) (Figures 22 and 23). About 88% of cases of diarrhoeal diseases are attributable to unhygienic sanitation, unsafe water and poor

Source: WHO
hygiene (Prüss-Üstün et al., 2008). While impressive progress has been made in recent years to reduce diarrhoeal death rates (UNICEF, WHO, 2009), estimates suggest that the overall incidence of diarrhoeal diseases has not decreased at the same rate over the past two decades.

Deaths due to diarrhoeal diseases

Although it is clear that other factors influence the incidence of diarrhoeal diseases, there is an obvious relationship between the use of improved sanitation with the incidence of such diseases as indicated in Figure 24.
3.3 Sanitation sector status

The responses from TWG WSH Member Countries in 2011 did not show significant changes from the previous questionnaire (2009). The sections below represent an attempt to summarize the findings of country reports prepared by the focal persons of the TWG WSH.

3.3.1 Constraints for sanitation development

The request to the TWG WSH countries to group their perceived constraints to sanitation improvement in six major areas provided the following results:
Policies and strategies

Most countries indicated a lack of sound sanitation sector strategies as well as policies that lead to the allocation of more financial resources and subsidies to sanitation, especially to the poor. It is also considered that sanitation is not a priority and therefore there is a lack of mechanisms for advancing the sanitation agenda. The fact that the communities are not fully aware of the benefits of good sanitation and the importance of sound hygiene behaviours might be contributing to the lack of sufficient demand for these services. A particular concern is the difficulty to promote and support sanitation interventions in remote areas.

Legal framework

One of the factors contributing to the current sanitation status in East Asia is the absence of sound legal frameworks that would be supportive of more investments and a greater interest in building new infrastructure and promoting sanitation in many countries. This problem, associated with inadequate regulatory standards, may need to be tackled if the sanitation agenda is to progress in the region.

Institutional framework

The institutions responsible for sanitation in many countries are compartmentalized, weak and fragmented. There often is an absence of a leading agency capable of coordinating and facilitating the efforts to improve sanitation, especially in rural and remote areas.

Local governments frequently do not place sanitation as a priority as their perception is that other aspects of development provide more immediate and visible results. Poor operation and maintenance of sanitation facilities is a natural consequence of this lack of interest.

Even when funds are made available to build sanitation infrastructure, it is common to see facilities that are not fully operational because

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**Box 2. What can the health sector do to help create the sanitation agenda?**

1. Global health institutions may acknowledge and address the impact of sanitation on the global disease burden, the contribution of improved sanitation to reducing that disease burden and the potential benefits for public health outcomes.

2. International donors may prioritize support for programmes in countries with low sanitation coverage and a high burden of sanitation-related disease and invest in research and evaluation to understand the relative health impacts and additive effects of different types of sanitation interventions.

3. Lower-income country governments may ensure that sanitation is addressed within all relevant health policies, regulations, guidelines and procedures and establish targets and indicators for monitoring improvements in sanitation-related diseases.

4. Lower-income country governments may strengthen public health legal and regulatory frameworks to improve intersectoral coordination between ministries and agencies responsible for sanitation at different levels and enhance accountability for results.

5. National and subnational health programme priorities may take account of the sanitation-related disease burden and ensure that sanitation and hygiene are fully integrated within disease specific and national health programmes.

Source: WaterAid (2011)
of a lack of spare parts, a low level of personnel in charge of maintenance and facilities that are not compatible with the ability of the communities to keep them in good operating condition.

**Financing**

It is generally considered by the respondents of the TWG WSH questionnaire that there is a lack of sufficient financial resources and financial mechanisms to ensure the construction of infrastructure, its operation and maintenance and the social marketing necessary to promote sanitation and hygiene. This is generally because water supply and sanitation projects normally are a part of the same project, with an emphasis on water supply, sacrificing sanitation development. A problem also cited is that the users are often reluctant to pay for the costs of sanitation infrastructure but are less reluctant to pay for the costs of water supply infrastructure.

**Monitoring and evaluation**

The different aspects of sanitation development are not well monitored in the region. There is a lack of systematic information on existing infrastructure, institutional performance, management aspects, plans and programmes, as well as the operation and maintenance status of sanitation facilities. Monitoring is often not well coordinated between institutions responsible for sanitation services, which leads to a multiplicity of institutions monitoring similar indicators, which in turn leads to a great disparity of information. Thus, there is difficulty in most countries to devise good plans and programmes and conduct reforms based on reliable and verifiable information.
Human resources

Building the sanitation sector requires well-trained managers, skilled technicians and labourers, and contractors who can deliver effectively the services to which they are assigned. It is agreed that the region does not count on sufficiently skilled and experienced consultants and contractors, that there is a lack of human capacity, mostly at the provincial and district levels, and that there is a lack of sound human resources within the private sector.

3.3.2 Monitoring sanitation

Most EASAN focus countries reported little progress in establishing national monitoring and evaluation systems capable of providing reliable and verifiable information on sanitation and water. According to the East Asian respondents to the TWG WSH templates, there is a need to establish national comprehensive monitoring systems with a standardized definition of indicators, a proper definition of responsibilities, and sound coordination and collaboration mechanisms.

There is a need to formulate a methodology to generate and use information and coordinate monitoring at the national level. There is also a need to define the financial mechanisms to ensure the sustainability of the monitoring systems and assign adequate monitoring staff at central and subnational levels. As a result, a consolidated national database for water, sanitation and hygiene could be established, which would facilitate strategic decisions and lead to effective evidence-based planning.

A proposition has been made to establish regional sector monitoring of sanitation and water supply linked to EASAN (see Box 3).

**Box 3. Regional sector monitoring of sanitation and water supply linked to EASAN**

It was decided during the meeting of the TWG WSH and the Operation and Maintenance Network, which took place in Luang Prabang, Lao People’s Democratic Republic, in May 2010, that a regional water supply and sanitation sector monitoring and evaluation system should be established by the TWG WSH. The primary objective of the East Asia TWG WSH information system would be to serve as a platform for exchange of information on water supply and sanitation between the different TWG WSH Member Countries, which include the EASAN focal countries.

It was proposed that four groups of information should constitute the information system. The first group is quantitative information obtained from providers of services around the region. A tentative set of quantitative indicators has been prepared by the WHO Regional Office for the Western Pacific. The second group is qualitative information on the water and sanitation sector at the national level in each of the TWG WSH/EASAN Member Countries. This information will be obtained through the use of the most recent version of the Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) questionnaire, complemented with other relevant information. The third group is made up of documents generated at the country level that might be of relevance to the other Member Countries. The fourth group should comprise pictures and videos that depict selected water and sanitation technologies and practices around East Asia. All of this information should be freely available on a web site to be prepared for this purpose.

A project document has been prepared for this purpose in which the proposed information system is discussed in greater detail. The full implementation of such a system is still pending decisions such as the hosting agency, availability of resources (financial, human) and a firm decision by the Member Countries on the implementation of this important tool for country and regional planning, advocacy and decision-making.

3.3.3 Major initiatives, plans or programmes

No major changes occurred from the 2009 sanitation assessment in terms of important initiatives, plans or programmes dealing with sanitation in the region. The following initiatives, plans or programmes were reported:

Cambodia

- Accelerated and sustained progress on sanitation and hygiene assisted by the United Kingdom Department for International Development (DFID) and UNICEF; a low-cost latrine promotion programme assisted by WSP and International Development Enterprises Cambodia (IDE-Cambodia).

China

- The National Hygiene and Sanitation “Eleventh Five-Year Plan”, which is the national plan for hygiene and sanitation. The main aims were to increase sanitation coverage in rural areas to 65% by 2010. The proportion of public toilets in municipalities and provincial capital cities was targeted at not less than 70%.

Indonesia

- The National Strategy for Community-Based Total Sanitation (CBTS). The main objective is to be used for reference in planning, implementing, monitoring and evaluating the community-based total sanitation programme.

Mongolia

- The National Environmental Health programme by the Mongolian Government in 2005 aimed at building a healthy environment for living and working. This was to be achieved by action on risk factors linked to the contamination of the environment and through an improvement
of intersectoral collaboration. The main components are to strengthen monitoring and legal systems, enhance evaluation of adverse health impacts; implement actions on reducing morbidity related to environmental pollution, promote sustainable ecosystems and improve health education.

- The United Nations Joint Programme on Water and Sanitation in Mongolia. The goal of this UNDP, UNICEF, WHO and the United Nations Population Fund (UNFPA) programme was to increase water and sanitation provision at local levels by improving water and sanitation management. Between 2009 and 2011 the programme worked to:
  - Strengthen legal and regulatory frameworks.
  - Improve knowledge and behaviour change.
  - Enhance the national database, taking into account the JMP methodology.
  - Improve the capacity of drinking-water quality monitoring.
  - Increase water and sanitation provision at local levels.
  - Improve community ownership over water sources and sanitation facilities.

- The National Programme for Sanitation Facilities aimed to improve sanitation facilities at all levels and constructing or maintaining sewerage treatment plants. First phase ran between 2006 and 2010; second phase between 2010 and 2015.

**The Philippines**

- Preparation of the Sanitation Road map. Duration: between August 2009 and January 2010. The document serves as a guide for the sanitation subsector. It will define priority strategies, outcomes and outputs for the next medium-term development plan.
- Preparation of the National Sewerage and Septage Management Plan. Duration: between June and November 2009. The document is the national strategy for large-scale sanitation interventions addressing sanitation and sewerage in highly urbanized areas.

**The Republic of Korea**

- Implementation of a sewerage maintenance project by the watershed. Improvement of the water quality of watershed regions while enhancing efficiency in budget execution through building and operating comprehensive sewerage projects based on watershed regions.
- A maintenance project of sewerage systems in rural villages. Active investment is necessary to increase the sewerage connection rate of marginalized rural areas while managing existing facilities handed over from the Ministry of Public Administration and Security.
- The Government invested the equivalent of US$30 billion between 1992 and 2010 in building sewerage infrastructure and connecting users to the respective systems. The sewerage connection rate increased from 39% in 1992 to 89% in 2010.

**Viet Nam**

- National Target Programme for Rural Water Supply and Sanitation funded by the Government and donors, the Danish International Development Agency (DANIDA), the Australian Agency for International Development (AusAID) and the Netherlands Directorate-General of Development Cooperation (DGIS). This programme focuses on intersectoral cooperation, information, education and communication (IEC) activities, research, capacity-building and technical assistance and pilot sanitation models such as ecological sanitation, latrines for flood areas and social marketing of sanitation.
3.3.4 Private sector participation

There are several successful experiences in the region dealing with the involvement of the private sector in sanitation interventions.

In Cambodia, a manual for household latrine selection was prepared and disseminated to Government agencies, nongovernmental organizations and the local private sector. Awareness-raising activities (modelled on community-led total sanitation [CLTS] approaches) stimulate demand for the latrines and efforts to link to local micro-credit providers are in an advanced stage. There is a waiting list of suppliers wanting to be trained in the approach. Cambodia also has embarked on a School-led Total Sanitation Programme that relies extensively on the supply of materials and services by small entrepreneurs.

In Indonesia, the socialization and implementation of community-based total sanitation (CBTS) programmes stimulated extensively the involvement of local private entrepreneurs.

In Mongolia, the sanitation facilities of two hospitals were constructed or maintained through contracts awarded to private entrepreneurs.

In the Philippines, the Metropolitan Waterworks and Sewerage System functions under successful concession contracts which permit steady improvement of the Metro Manila sanitation system. Public-private partnerships are encouraged at local levels. A successful example is the decentralized wastewater treatment facilities operated privately in partnership with local governments.

In the Republic of Korea, legal frameworks are being formulated, including guidelines to establish concessions for private companies’ involvement in the management of wastewater treatment facilities.

3.3.5 Promotion of sanitation

Some countries devote considerable resources to promote sanitation improvement at the local government level. For example, in China, the national Government supports local government action on sanitation through funds and policies formulation. It has been a strong advocate of reforms in rural areas with the active participation of local governments to expand access to basic sanitation and water supply services and to create replicable models for expanding such services.

In Indonesia, approaches such as socialization, advocacy and training (capacity-building) are conducted by the central Government to the provincial, district and city governments.
for widespread implementation of CBTS programmes.

In the Philippines, the national Government supports local governments through awareness-raising, capacity-building and access to financing.

In Viet Nam, the central Government exerts efforts to strengthen local governments through information and capacity-building and supports their consolidation at the responsible administrative level for sanitation promotion and implementation.

Most countries indicated that the participation of women, children, poor families, and the public and private sectors in planning and implementing sanitation programmes was insufficient in face of the immense problems still to be tackled and that additional efforts should be exerted if a greater involvement of the population is to be achieved.

3.3.6 Human resources

Most of the countries indicated that the personnel dealing with sanitation are generally not well trained. This is especially true among local government staff and the local private sector.

It was indicated that improving human resources in the region would need a realistic allocation of financial resources for capacity-building, including the establishment of training facilities and postgraduate short-term training at the country level and abroad. There is also a need to increase the numbers and quality of sanitation and hygiene staff at the subnational level and, equally important, to formulate strategies to avoid the turnover of high-quality sanitation and hygiene personnel.

There is also a need to formulate and implement clear and feasible strategies on human resources training and put into effect a sanitation and hygiene qualification authentication system for technical staff and gradually expand the qualification requirements of such staff accordingly.

It also was indicated that there is a need for continuous training and sharing of experiences among villages, for improved IEC materials and for more international cooperation for education exchange.

It also was felt that incentives were required for personnel working in remote areas through the improvement of their living conditions and increase in salaries.

Hand washing Day on 15 October 2010, Viet Nam
Considering the increase of projects dealing with conventional sewerage systems in the region, it was indicated that there is a need to prepare a professional education course on sewerage so as to share know-how and information regarding the operation and management of advanced sewerage facilities and to shift the educational focus from institution and theory to field and on-the-spot learning.

### 3.3.7 Finance

There is a lack of consolidated information on national investments in sanitation in most East Asia countries. The sanitation sector in most of these countries is generally fragmented and there is little coordination among the different institutions responsible for sanitation that otherwise would facilitate the flow of information in an organized and effective manner.

Another factor hampering the flow of information is that government investments and recurrent expenditures in sanitation and water supply are frequently bundled and it is difficult, if at all possible, to produce a breakdown of these figures. The investments made at the household level are not currently captured by national statistics mechanisms.

In conclusion, there is a lack of good, reliable information systems at the country level that tackle the financial aspects of sanitation. Such a gap should be bridged as a crucial priority.

### 3.3.8 Institutional framework for sanitation

The responses to the TWG WSH templates indicate that the responsibilities for sanitation, especially rural sanitation, are not clearly defined and are an afterthought in different national or local agencies. The responsibilities for sanitation and the communication and coordination mechanisms among agencies appear to be blurred in most countries, and in some cases simply do not exist. The following is a summary of the recommendations by the East Asia countries to improve the institutional frameworks for sanitation in the region:

First, there is a need to define the sanitation and hygiene roles and responsibilities of different national and subnational stakeholders. Such responsibilities cut across many agencies. Thus, interagency and intersectoral coordination mechanisms should be established effectively.

Second, there is a need for a strong sanitation sector champion and the establishment of a national technical assistance mechanism for local implementers. This should be coupled with resource mobilization (financial, human resources) for implementation of rural sanitation strategies and programmes.

Third, there should be a decisive local political commitment to sanitation improvement and more financial and technical support from international agencies to country-level sanitation improvement.

Finally, more emphasis should be placed on human resources training, especially at the management level.

### 3.4 Summary of the hygiene situation

#### 3.4.1 Crucial issues for hygiene development

The constraints and problems identified by the East Asia country questionnaire include a lack of synchronized approaches and strategies at national and subnational levels and insufficient financial support for hygiene promotion. This is partly due to discontinued support from donors, possibly because sanitation and hygiene promotion interventions require a
long time to produce tangible and sustainable results.

It is also considered that a major constraint for sanitation and hygiene development is the low level of education of people in rural areas. Many ethnic groups in remote areas need targeted materials on IEC.

Another important constraint identified by the respondents to the questionnaire is the lack of access to safe water sources and good sanitation systems.

The TWG WSH focal persons suggest that there is a need to create awareness among policy-makers on the importance of hygiene promotion and to formulate national hygiene promotion plans to improve hygiene at all levels with proper budgets and a clear definition of roles and responsibilities.

It is also recommended that the existing primary and secondary school curricula should be revised to include effective hygiene promotion. In this connection, it is recommended that in addition to a strong focus on schools, hygiene promotion interventions may use the different media nationwide to reach the population.

There is a need also to organize training at the local level to promote and facilitate social mobilization and community participation for improvement of hygiene behaviour and actively involve the local government and communities in hygiene promotion programmes. Support from stakeholders for needs at all levels may be increased for better regulation, policies and financial support.

3.4.2 Status of sanitation and hygiene in schools and health-care establishments

The information available on the status of sanitation in public primary or secondary schools and health-care establishments...
is almost nonexistent in most East Asia countries. The few lower-income countries reporting indicated a reality that is less than acceptable.

The recommendations of the TWG WSH focal persons included the need for increasing the commitment of local governments by creating awareness on the need to promote good hygiene behaviours. This would be helped by the formulation and approval of a sound regulatory framework for schools and health-care establishments dealing with sanitation and drinking-water requirements, as well as the allocation of sufficient financial resources for construction and operation and maintenance of public schools and health-care establishments in national financial planning.

Other crucial recommendations included the following:

- There is a need to promote intersectoral cooperation for a better definition of responsibilities and effective action.
- Build in operation and maintenance costs in management of sanitation facilities. Ensure the availability of the water supply.
- The school principal or the head of a health-care establishment needs to be active in fundraising for operation and maintenance within the community served by these establishments.
- Monitor regularly levels of service and progress by the education ministry and local health authorities.
- Strengthen local human capacity to improve the level of operation and maintenance of sanitation facilities.

3.5 Findings of the second ministerial conference

The Second East Asia Ministerial Conference on Sanitation and Hygiene, hosted by the Government of the Philippines in Manila from 27 to 29 January 2010, generated, in summary, the following major commitments by the high-level representatives of the different

Hand dance performance by 3000 primary school children during Global Handwashing Day 2011, Jakarta, Indonesia
governments in East Asia:

1. Meet our national MDG-based sanitation targets by making sustainable sanitation a part of our national development strategy, committing to specific time-bound targets and formulating national sustainable sanitation road maps with the appropriate allocation of human, financial and logistical resources for their implementation.

2. Adopt sustainable sanitation and hygiene policies that protect public health and the environment, with specific goals and financial targets, and promote the formulation of national sustainable sanitation road maps that accelerate the attainment of the MDG targets on water and sanitation. They should be matched to our economic, social and environmental situations and guide us towards good governance, institution-building, capacity-building, infrastructure and investment strategies, financing, and strategic alliance-building to make our sanitation systems work for us.

Box 4. Joint Workshop of the Thematic Working Group on Water, Sanitation and Hygiene and the Operation and Maintenance Network

The TWG WSH and Operations and Maintenance Network (OMN) meeting was held from 26 to 28 May 2010 at the Phousi Hotel in Luang Prabang, Lao People’s Democratic Republic. There were 33 high-level attendees, including members of the TWG WSH from 13 countries in the region and resource persons from the Asian Development Bank, the International Water Association (IWA), the United Nations Children’s Fund (UNICEF), WHO and the Water and Sanitation Programme.

Among other crucial resolutions dealing with the sustainability of operations and maintenance of sanitation and water systems, it was agreed unanimously that the TWG WSH would take up the task of acting as the secretariat of the EASAN platform for the organization of the EASAN3 in support of the host country (Indonesia). In addition, a few activities were considered by the meeting to be implemented in support of the EASAN platform as indicated in the table below:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Timing</th>
<th>Lead Member</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare a compendium of sanitation financing best practices (urban and rural); and identify appropriate financing schemes for various types of sanitation interventions</td>
<td>x x x</td>
<td>Malaysia</td>
<td></td>
</tr>
<tr>
<td>Promote the development of national water supply, sanitation and hygiene sector assessments, plans and policies.</td>
<td>x x x</td>
<td>Philippines</td>
<td></td>
</tr>
<tr>
<td>Develop a regional water supply and sanitation sector monitoring system consistent with the WHO/UNICEF Joint Monitoring Programme.</td>
<td>x x</td>
<td>Philippines</td>
<td></td>
</tr>
<tr>
<td>Conduct intercountry workshop on sanitation in cold climates.</td>
<td>x x x</td>
<td>Mongolia</td>
<td>IWA will support the activity</td>
</tr>
<tr>
<td>Formulate guidelines on emergency sanitation, advocate for preparedness and build capacity for implementation.</td>
<td>x x</td>
<td>Philippines</td>
<td>IWA will support this activity</td>
</tr>
<tr>
<td>Support the planning and implementation of EASAN3, including preparation of preconference regional sanitation.</td>
<td></td>
<td>Indonesia</td>
<td></td>
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</table>

Source: TWG WSH, Western Pacific Regional Office (2010)
3. Build regional and multi-stakeholder sustainable sanitation partnerships among governments, different levels of government, civil society, the private sector, academia, nongovernmental organizations and others to raise awareness, mobilize resources and exchange knowledge on sanitation and hygiene development in each of the following areas: promotion of hygienic behaviours, improvement of household sanitary arrangements and sewage collection, treatment and safe disposal.

4. Facilitate regional collaboration and support to assist countries in our region to fast track the achievement of the MDG sanitation targets by:

   a. Holding regional and subnational exchanges such as country-to-country or city-to-city cross-trainings, sharing of sanitation experts and study tours.
   b. Conducting regional studies and research on good practices in hygiene and sanitation, including excreta management.
   c. Promoting the sanitation agenda among other regional forums and networks to strengthen regional linkages and cooperation.

5. Ensure the final treatment for septage and septic tank effluents before wastewater is released to the environment to protect public health and the environment.

6. Provide capacity support to subnational and local governments to enable them to effectively and efficiently implement sanitation and hygiene programmes and projects.

7. Promote the benefits of sustainable sanitation and sustainable agriculture as we address the pressing needs for food security and adequate water supply.

8. Establish a national multisectoral committee to help concerned ministries formulate and implement sanitation and hygiene action plans with quantifiable targets and time frames.

9. Continue to convene regularly through EASAN as the regional platform for cooperation in sanitation and hygiene among East Asia countries and between our region and other regions in the world with a commitment to hold EASAN3 in 2012 to assess our country and regional progress against our commitments with regard to the MDGs.

10. Request the Regional Forum on Environment and Health to mandate the TWG WSH to act as the regional platform for facilitating cooperation in East Asia countries towards the improvement of sanitation and hygiene, to collaborate with the EASAN3 host country in the planning and organization of EASAN3 and to support the planning and implementation of follow-up action plans.
11. Promote the implementation of national sanitation, hygiene and water sector assessment programmes as a means to generate crucial information for decision- and policy-making in our countries.

12. Call on higher-income countries to support lower-income countries in improving their sanitation and hygiene status.

13. Call on other regional and global forums and organizations to support the statements, principles and commitments of EASAN2 and our efforts in pursuit of this declaration.


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**Box 5. Factors leading to success**

According to D.T. Punpeng’s presentation at the First East Asia Ministerial Conference on Sanitation and Hygiene (EASAN), the factors leading to success in sanitation development are:

- Explicit, strong, extended national policy
- Systematic capacity-building
- Strong people’s participation
- Efficacy of budget management
- Development of appropriate technology
- Multisectoral collaboration
- Systematic and efficient monitoring and evaluation system.

*Source: Punpeng (2007)*
The scenario is basically set towards the sunset of the MDG era. The MDG sanitation Target 7c, which includes the aim of halving the proportion of the population without sustainable access to basic sanitation by 2015, will likely be exceeded by 8% for East Asia as a whole. However, the situation in 2015 will be less than satisfactory in this region, as demonstrated in this document.

New goals and targets but also new approaches and commitments will need to be made. Taking into account the analyses by the TWG WSH membership and its respective recommendations to advance the sanitation agenda, the EASAN platform might wish to contribute to a regional vision on sanitation post-MDG by including the following crucial points into the agenda items of the EASAN3 conference, as follows:

### 4.1 Universal coverage with basic sanitation

The sanitation coverage projections indicate that over 500 million people still will be deprived of even the simplest improved sanitation facility in 2015. This is nearly equivalent to the entire population of Latin America and the Caribbean projected to 2015. Over 100 million people still practise open defecation in East Asia. If the sanitation coverage trend of the last 20 years prevails, universal coverage with improved sanitation will not be achieved before 2036.

Further, not necessarily all the 1.6 billion people in East Asia served with improved sanitation facilities will use basic sanitation facilities in 2015. As indicated earlier in this document, the concept of “improved sanitation” is just...
a proxy to basic sanitation facilities. While improved sanitation facilities refer to certain types of sanitation infrastructure considered more likely to be hygienic and separate human faeces from hands, basic sanitation refers to facilities that are sustainable, affordable, hygienic, provide privacy and dignity and do not compromise the environment both at home and in the neighbourhood of users.

With this background in perspective, EASAN would be expected to discuss the following issues:

- Is universal coverage achievable?
- What should be the criteria to define new targets for sanitation?
- How to meet the financial requirements to achieve such targets?
- What should be the targets: improved sanitation, basic sanitation or something else?
- Is there a need for specific sanitation sector strategies and policies that lead to the allocation of more financial resources and subsidies to sanitation, especially to the poor?

Approaches for sanitation development

Several approaches and technologies have been in use over the past years to accelerate sanitation and hygiene development. They range from the professional management of complex sewerage systems and wastewater treatment plants to low-cost household or community-centred management approaches such as mass social marketing, community-based water, sanitation and hygiene programmes, Community-led Total Sanitation (CLTS) (IRC, 2011) and Participatory Hygiene and Sanitation Transformation (PHAST).

It is suggested that the EASAN’s contribution to the overall thinking for the post-MDG era should be focused on the following:

- Do we have the elements to propose approaches and technologies that should be emphasized beyond 2015?
- Should we promote the adoption of sewerage systems and professional management of such systems in urban settings? Otherwise, what should be the approach for urban areas?
- What should be the approaches for sanitation development in peri-urban and rural areas?
- How to deal with the problem of fragmentation and compartmentalization of sanitation sector institutions?
- How to improve the effectiveness of operation and maintenance of sanitation systems?
- What should be done to improve human resources in the region at all levels, including government-employed managers, technicians, labourers and staff from contractors?
- How to improve sanitation and hygiene in schools and health-care establishments?

4.3 Measuring the use of basic sanitation

As indicated earlier in this report, due to the lack of statistical information to estimate access to basic sanitation, the United Nations adopted the concept of “improved sanitation” as a proxy to basic sanitation facilities. No information existed in the past or exists at this stage to indicate the proportion of people with
access to improved sanitation that is in fact using basic sanitation facilities. A considerable amount of effort needs to be exerted to ensure that country surveys and other data-collection mechanisms capture the key elements characterizing the use of basic sanitation facilities by citizens as opposed to capturing the elements characterizing improved sanitation only. The following aspects of this problem should be considered by the EASAN3 conference:

- Shall we continue measuring the use of improved sanitation through household surveys as opposed to expanded surveys that address basic sanitation? How to address this issue properly?
- Should a water and sanitation regional information system be implemented as proposed and discussed during the last two TWG WSH meetings in 2010 and 2011? How?
- How to harmonize the different monitoring mechanisms in East Asia countries?

## 4.4 Sanitation as a human right

The United Nations General Assembly declared on 28 July 2010, “The right to safe and clean drinking-water and sanitation as a human right that is essential for the full enjoyment of life and all human rights.” It also urged countries to “scale-up efforts to provide safe, clean, accessible and affordable water and sanitation for all”. Following this decision, the Human Rights Council adopted, on 30 September 2010 by consensus, a resolution (A/HRC/15/L.14) affirming that access to safe drinking-water and sanitation is a human right. Thus, all of the international legal frameworks are in place to ensure the achievement of universal coverage with basic sanitation.
As a contribution to the full realization of this basic human right, now fully recognized by the United Nations, the EASAN3 delegates are expected to discuss the following aspects of this important theme:

- Shall the EASAN ministerial conference endorse access to basic sanitation as a human right?
- What should be the measures by governments and international organizations in following up the application of the right to sanitation?

4.5 Public and private partnerships

It is generally agreed within the sector that public and private partnerships are fundamental to accelerate investments and improve the management of projects and services. It is also clear that the private involvement in the sanitation sector must be organized through sound regulatory frameworks and good controlling mechanisms. Private sanitation sector involvement can range from the management of complex systems in total or just in part (e.g. maintenance of facilities, operation and maintenance of wastewater treatment plants, etc.) to the management or implementation of small-scale projects in peri-urban or rural areas.

The following are questions that need to be considered in this regard as part of a vision for sanitation beyond the MDG target:

- What level of involvement of the private sector in sanitation should be envisaged?
- How to make the sanitation sector attractive to the private sector?
- How to promote public–private partnerships?
- What should be the regulatory, controlling and management mechanisms to ensure that a public–private partnership is successfully implemented?
Is it possible to recover the capital costs and the operation and maintenance costs of sanitation systems? What approaches should be adopted?

4.6 Making household and environmental sanitation a sustainable business

The Asian Development Bank (ADB), through its Partners Sanitation Dialogue, is promoting household and environmental sanitation as a sustainable business through the discussion of successful projects involving creation of an enabling policy environment and choice of technology and financing options. A major output of the ADB’s Second Partners Sanitation Dialogue: Making Sanitation a Sustainable Business held in Manila, Philippines, in May 2011, is that improved sanitation, including wastewater and septage and sludge management and reuse, is an essential step in achieving water security. It brings significant health, environmental and economic benefits and directly contributes to poverty reduction. It can also generate revenue streams through recycling and reuse and through the conversion of biogas into power, demonstrating that sanitation is not an investment dead end (ADB, 2011) (see Box 6).

In this context, EASAN would be expected to discuss the following issues:

- How can the EASAN platform contribute to the above-referred initiative?
- What has been done so far on this issue in East Asia countries? What lessons have been learnt in this regard?
- How to convert this approach into reality in East Asia countries?
The ADB Sanitation Dialogue aims at raising awareness of ADB Developing Member Countries (DMCs) on the need to give priority to meeting their sanitation needs, including putting in place a comprehensive sanitation policy, if required, integrating sanitation and wastewater management into national development plans, increasing investment programming over their current levels, and ensuring viable and sustainable service delivery. It aims also at making environmental sanitation a sustainable business through discussion of successful projects involving creation of an enabling policy environment and choice of technology and financing options.

The Second ADB and Partners Sanitation Dialogue: Making Sanitation a Sustainable Business was organized in Manila, Philippines, from 23 to 25 May 2011 with the following objectives:

- To have DMCs give greater priority to meeting their sanitation needs, including integrating sanitation and wastewater management into national development plans, increasing investment programming over their current levels and enhancing partnerships among the governments, the private sector, nongovernmental organizations, academia and communities to ensure affordable, technically and environmentally sound, financially viable and sustainable service delivery.
- To raise the awareness of targeted DMCs on making household and environmental sanitation a sustainable business through discussion of successful projects involving creation of an enabling policy environment and choice of technology and financing options.

A summary of the main recommendations from this event is presented here:

- We need to collectively work harder to make a real change in outcomes.
- We must get commitments from political leaders and finance ministries to prioritize sanitation investments.
- We need to move away from the traditional way of doing business. Sanitation does not end with the provision of household toilets. It includes wastewater and sludge collection, conveyance, treatment, disposal and reuse, and maintenance of the assets.
- We need to plan for meeting water security and recognize the contribution that wastewater management can play in reducing the magnitude of the problem. Improved sanitation, including wastewater and septage and sludge management and reuse, is an essential step in achieving water security. It brings significant health, environmental and economic benefits and directly contributes to poverty reduction. It also can generate revenue streams through recycling and reuse and through the conversion of biogas into power, demonstrating that sanitation is not an investment dead end.
- A thorough public awareness and social mobilization process is vital to motivate communities and create demand for sanitation.
- Planning sanitation through phased approaches and promoting decentralized options are strategic to minimizing capital expenditure and operational costs.
- We need to consider the link between technology and political and social knowledge.
- We need to consider the link between technology and political and social knowledge.
- We have to optimize public funds and consider targeted subsidy schemes.
- We can only achieve our goals by forging more effective and lasting partnerships, where we seek to work beyond traditional silo-based approaches.

Many other key issues were identified and key messages were formulated at this important event which will certainly contribute to the development of a new agenda for sanitation beyond 2015.

Source: ADB (2011)
4.7 Hygiene: the forgotten priority

Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases. Medical hygiene includes a specific set of practices associated with preservation of health, for example environmental cleaning, sterilization of equipment, hand hygiene, water and sanitation, and safe disposal of medical waste (WHO, 2012).

Despite the huge health benefits of good hygiene behaviours, hygiene is frequently not a priority in a nation’s development process. The lack of proper hygiene has a particular impact on children, inhibiting their mental, physical and social development. The EASAN2 conference identified the most crucial issues in effecting improvements in this area. They include awareness creation; formulation of a national hygiene promotion plan; inclusion of hygiene promotion in school curricula; hygiene monitoring and evaluation; using different media nationwide; local-level training; and increased investment. Stakeholder participation in planning and implementing sanitation and hygiene programmes was of prime importance. The lack of proper sanitation in many schools in East Asia had a considerable negative impact on education, particularly among girls.

With this background in perspective, the following topics need to be addressed in a post-MDG vision if the full benefits of access to safe drinking-water and basic sanitation are to be accrued:

- How to improve the profile of hygiene issues in the overall national and subnational sector planning?
- What should be the mechanisms to ensure the financial viability of a national or subnational hygiene programme along the lines formulated at the EASAN2 conference (see above)?
- How to measure the benefits (health, financial) of a hygiene promotion programme?

4.8 The health sector responsibilities

In many lower-income countries today, the responsibilities for planning, designing, constructing, operating and financing sanitation and drinking-water systems rest with central government ministries other than health, such as ministries of construction, public works or urban and rural development. These responsibilities increasingly are also being decentralized to provincial or district government authorities or other local government bodies.

The relevant role of health authorities in many lower-income countries is focused mainly on the promotion of hygiene behaviours and, to some extent, surveillance of drinking-water quality. Health authorities normally sustain national programmes on these two issues but the prevalence of unhygienic practices and paucity of safe drinking-water calls into question the effectiveness of such programmes (TWG WSH, 2010). The health sector is expected to provide a greater contribution not only to the process of establishing a new vision for the sanitation sector beyond 2015 but also to devise an active role in making such a vision a reality (see Box 7).

Relevant points for this discussion include the following:

- Does the 2010 document prepared by the TWG WSH Functions of Health Authorities in Relation to Water Sanitation and Hygiene—A Discussion Paper provide a good basis for this discussion? Should it be revised to accommodate the new requirements from the commitments and new targets following the year 2015?
- How to convert the principles and guidance provided by the above-referred document into practice at the country level?
The TWG WSH proposed a core set of functions of health authorities in relation to water, sanitation and hygiene as summarized below:

(1) Leadership functions

(a) Role in the implementation of National Environmental Health Action Plans (NEHAP)
As countries formulate and implement their NEHAP it is imperative that the health authorities have a strong leadership and advocacy role in the part of the NEHAP dealing with water, sanitation and hygiene. The actions derived from this function should not be confined to health authorities. They should also reach out to the providers of drinking-water and sanitation services.

(b) Establishment of science-based evidence
Health authorities have an indispensable function of influencing the policies of service providers, regulators and other water and sanitation sector stakeholders. Effective advocacy requires a sound basis of scientific evidence on issues such as epidemiological trends and effectiveness, cost-effectiveness and cost-benefit of alternative interventions. Health authorities should function as providers of information, not only for their own public health services but for other stakeholders in the water and sanitation sector as well.

(c) Normative role
A basic function of health authorities is the establishment of standards protective of human health for drinking-water quality, wastewater treatment and discharge, protection of water sources, recreational water, and use of wastewater and excreta in agriculture and aquaculture. This function should cover all sectors. Risk assessments based on sound epidemiological data and toxicological information should form the basis for standard setting.

(d) Health and hygiene promotion
Health and hygiene promotion is a logical and highly cost-effective function of health authorities and critically important in order to optimize the health gains associated with investments in water supply and sanitation infrastructure and services.

(e) Monitoring and surveillance
Health authorities have a generic mandate to carry out health impact assessments of both existing and emerging threats to public health. In relation to the water sector, this implies monitoring the water quality in drinking-water, source waters and, where appropriate, recreational waters. More broadly, in order to fulfil their functions as evidence-based advocates, health authorities must monitor access and use of water and sanitation services, sector investments, and sector policies and programmes.

(f) Water, sanitation and hygiene in health-care facilities
In order to maintain the credibility of health authorities as evidence-based advocates for improving water, sanitation and hygiene, it is indispensable that health-care facilities themselves comply with national norms and standards in relation to drinking-water, hand washing facilities, sanitary facilities and hygiene practices.

(2) Advisory or participative functions

(a) Advocacy outreach to non-health sectors
This function is closely linked to and dependent on the leadership function of health authorities in establishing science-based evidence since effective advocacy depends on sound evidence. Health authorities have an inherent responsibility to advocate greater investments, increased cost-effectiveness, higher health gains, and more equitable access to water supply and sanitation services.

(b) Emergencies and natural disasters
The repair of infrastructure and services in post-disaster emergencies may be the function of non-health sector authorities, but health authorities should support such activities with technical advice on health-related issues and should ensure that emergency interventions comply with health-based standards and good practice. Health authorities should have an important role in the preparedness for emergencies and in the long-term recovery process.

(c) Support to service providers
Particularly in resource-poor settings, health authorities fulfil an important function in providing technical, advisory and other support to service providers at all levels.

Source: TWG WSH (2010)
5 Consolidation of the EASAN platform

Although the previous EASAN conferences discussed the main aspects of the cooperation between the EASAN platform and the TWG WSH, there is still a need to consolidate the roles and responsibilities with regard to this process. Figure 25 is an attempt to visualize such roles and responsibilities more precisely. This is tentative and should be examined by EASAN3 and adjusted accordingly.

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**Figure 25. Roles and responsibilities within the EASAN platform**

<table>
<thead>
<tr>
<th>Functions</th>
<th>Organization of the EASAN ministerial conferences</th>
<th>Implementation of action plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secretariat of the regional platform (with rotating Member Countries)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Be the host country of the EASAN ministerial conference  
- Coordinate the activities conducive to the organization of the EASAN ministerial conference  
- Issue invitations to Member Countries for the ministerial conference  
- Prepare the programme of the conference with support from the TWG WSH as needed  
- Seek funding (internal and external sources) to meet the costs of the conference organization  
- Advisory support to the next country hosting the EASAN conference |  
- Promote to all pertinent government agencies, nongovernmental organizations and local bilateral and multilateral agencies the outputs of the EASAN ministerial conference  
- Implement the activities defined in the action plan, which fall under the focal country’s responsibility  
- Seek internal or external funding for the implementation of the action plan’s activities under the focal country’s responsibility  
- Share with other countries and with internal or external support agencies the results obtained from the implementation of the foregoing activities |
| EASAN Focal Countries |  
- Define the delegates to the EASAN ministerial conference  
- Prepare and present at the EASAN ministerial Conference the materials requested by the regional platform’s secretariat  
- Seek financial support to fund the participation of its delegates at the EASAN ministerial conference |  
- Promote to all pertinent government agencies, nongovernmental organizations and local bilateral and multilateral agencies the outputs of the EASAN ministerial conference  
- Implement the activities defined in the action plan, which fall under the focal country’s responsibility  
- Seek internal or external funding for the implementation of the action plan’s activities under the focal country’s responsibility  
- Share with other countries and with internal or external support agencies the results obtained from the implementation of the foregoing activities |
**Figure 25. Roles and responsibilities within the EASAN platform (cont...)**

<table>
<thead>
<tr>
<th>Functions</th>
<th>Organization of the EASAN ministerial conferences</th>
<th>Implementation of action plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Actors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWG WSH Secretariat</td>
<td>- Provide technical support throughout the process of organizing the EASAN ministerial conference &lt;br&gt; - Support the preparation of documents for the EASAN ministerial conference, including a technical discussion document.</td>
<td>- Collect information recurrently on the progress of the action plan’s activities both from focal countries and external support agencies &lt;br&gt; - Consolidate and analyse the information collected with regard to the achievability of the targets &lt;br&gt; - Disseminate the consolidated information to all participating Member Countries</td>
</tr>
<tr>
<td>Multilateral and bilateral organizations (WHO, WSP, UNICEF, UNEP, ADB, etc.)</td>
<td>- Provide technical and financial support for the organization of the EASAN ministerial conference &lt;br&gt; - Ensure that those involved in the organization of the EASAN ministerial conference have the information and the means required for a successful event &lt;br&gt; - Disseminate the outcomes of the EASAN ministerial conference at international forums</td>
<td>- Provide financial support for the implementation of the different activities of the action plan &lt;br&gt; - Provide technical support for the implementation of the foregoing activities in terms of short- or long-term external or internal consultancies &lt;br&gt; - Disseminate the outcomes of the activities implemented under the framework of the action plan</td>
</tr>
<tr>
<td>Nongovernmental organizations</td>
<td>- Support the national government agency attending the EASAN ministerial conference in preparing materials (e.g. case studies) that would be relevant to the conference &lt;br&gt; - Attend the EASAN ministerial conference as required</td>
<td>- Implement the relevant activities foreseen in the action plan in cooperation and consultation with the government agencies in charge</td>
</tr>
</tbody>
</table>

Source: WHO
Bibliographic references


World Health Organization, Philippines Department of Health, United Nations Secretary-General’s Advisory Board on Water and Sanitation, United States Agency for International Development /Asia (2010). *Sanitation and Hygiene in East Asia*. World Health Organization, Western Pacific Regional Office, Manila, Philippines.

PART 2

Country Profiles

The information in the country profiles presented in Part II of this document was obtained from various sources as indicated in the respective sections of the profiles. The information and respective analysis for each country are not exhaustive.

The objective of the profiles is to provide the reader with a greater insight into some crucial aspects of development in each country, which are linked closely to water, sanitation and health. This would, in turn, be expected to lead to a better understanding about the main factors linked to the sanitation status in each country.
1 Cambodia

1.1 Population, health and development

Population

Figure 26. Population in Cambodia, urban, rural and total, 1990–2015

The population in Cambodia is predominantly rural with the inhabitants of urban areas representing one fifth of the total population.

Source: Country population from UNPD (2010)

GDP per capita

Figure 27. GDP per capita in Cambodia, 1990–2010

The GDP per capita in Cambodia has more than tripled over the past two decades. Although this was accompanied by a similar increase in the proportion of people served with improved sanitation, the country is still far from achieving coverage levels similar to those of most countries in East Asia.

Source: World Bank (2011)
Health

**Figure 28. Life expectancy at birth in Cambodia, 1990, 2000 and 2009**

Life expectancy in Cambodia remained practically stagnant over the past two decades.

Source: WHO

**Figure 29. Infant mortality rate (probability of dying between birth and 1 year old (per 1000 live births)**

Despite a reduction in the infant mortality rate over the past decades, the statistics in Cambodia are still significantly high as compared with other countries in the region.

Source: WHO

**Figure 30. Under-5 mortality rate (probability of dying by 5 years old) (per 1000 live births)**

Source: WHO

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**Table 3. Annual morbidity and mortality due to diarrhoeal diseases, Cambodia, 2004**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases of acute diarrhoeal diseases</td>
<td>6,711,477</td>
</tr>
<tr>
<td>Number of deaths due to diarrhoeal diseases</td>
<td>10,534</td>
</tr>
<tr>
<td>Incidence rate of diarrhoeal diseases (per 1000 population)</td>
<td>492</td>
</tr>
<tr>
<td>Death rates of diarrhoeal diseases (per 100,000 population)</td>
<td>77</td>
</tr>
</tbody>
</table>

Source: WHO
Diarrhoeal diseases, which are mostly preventable through basic sanitation, safe drinking-water and hygiene, are responsible for 7% of all deaths in Cambodia among under-5 children.

**Water resources**

Diarrhoeal diseases, which are mostly preventable through basic sanitation, safe drinking-water and hygiene, are responsible for 7% of all deaths in Cambodia among under-5 children.

**Table 4. Fresh water withdrawals, Cambodia, 2000**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual freshwater withdrawals (% of internal resources)</td>
<td>1.8</td>
</tr>
<tr>
<td>Total annual freshwater withdrawals (billion cubic metres)</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Source: World Bank (2011)
1.2 Sanitation coverage

**Current and past coverage**

**Figure 33.** Proportion of the population in Cambodia using improved sanitation, total, urban and rural areas, 1990, 2010

Although the proportion of people using improved sanitation facilities more than tripled over the past two decades, only three of 10 people are served with this type of facility.

**Source:** Coverage statistics from WHO/UNICEF (2012)

**Figure 34.** Proportion of the population using an improved, shared or other unimproved sanitation facility or practising open defecation, Cambodia, 1990, 2010

Not much progress has been made in reducing open defecation in Cambodia: three of five people still practise open defecation.

**Source:** Coverage statistics from WHO/UNICEF (2012)

**Figure 35.** Population using improved, shared or unimproved sanitation technologies or practising open defecation, Cambodia, 1990–2010

Over 4 million people gained access to improved sanitation over the past two decades. Despite such a good progress, over 8 million people still practise open defecation in this country.

**Source:** Coverage statistics from WHO/UNICEF (2012)
Where are the unserved?

The population without improved sanitation in rural areas is increasing regardless of whether it remained constant in urban areas. Over 1 million additional rural people were added to those already unserved in 1990.

Source: Coverage statistics from WHO/UNICEF (2012)

Achieving the MDG

If the current coverage trend is confirmed, Cambodia will not achieve the MDG target for sanitation in 2015. It will fall short by 18% to achieve the target.


Achieving the MDG target for sanitation in Cambodia will require that an additional 4.12 million people receive access to improved sanitation from 2010 to 2015. However, the current trend indicates that only 1.17 million additional people will gain access over this period.

1.3 Hygiene

Crucial issues for hygiene development

- Hygiene education programmes evolved from “poor” in 2009 to “regular” in 2011. Although a strategy exists, it has limited support and is being implemented partially. Participatory Hygiene and Sanitation Transformation (PHAST) is the only approach used to promote hygiene practices in rural areas.
- The key issues affecting the current levels of hygiene are the following:
  - Lack of financial support.
  - Awareness on sanitation is limited from the top to the grassroots level.
  - Lack of a beneficiary’s willingness to contribute and the temptation of waiting for the subsidy.

Status of sanitation and hygiene in schools

- There has been a decrease in the percentage of sanitation facilities in both public primary and secondary schools from 1999 to now (from 77.6% to 76.7% for primary schools and from 95% to 86.3% for secondary schools). Although these variations can be attributed to a predictable margin of error in the surveys capturing this information, they highlight, nevertheless, a possible deteriorating trend.

Status of sanitation and hygiene in health-care facilities

- There is no information available about the status of sanitation in health-care establishments.
- Based on the national health policy, water supply and sanitation facilities need to be available in each public health facility, but the implementation of such a directive is not happening effectively.
- Operation and maintenance is a huge problem. As a consequence, unhygienic environments occur in toilet facilities.

1.4 Sector issues

Main constraints for sanitation development

- Investment in sanitation and hygiene improvement is limited from both the Government side and the development partner side.
- Lack of human capacity, mostly at the subnational level.
- Operational plan for national strategy for rural water supply, sanitation and hygiene still not yet formulated.
- Commitment of local government is limited.
- Although the strategy for rural water supply, sanitation and hygiene is underway, the operational plan that translates the strategy into implementation is not yet available.
- It is considered that although there is a sound monitoring system available, it is not well integrated into review and planning.
- Many organizations, mostly nongovernmental organizations and funding agencies, have not been consistent with subsidy and nonsubsidy approaches for implementation of rural sanitation programmes.

Monitoring sanitation

Information not available.

Major initiatives, plans or programmes

- National rural water supply, sanitation and hygiene strategy from 2011 to 2025 was completed by the Government in May 2011.
- A WASH programme has been formulated and is being implemented.
- The Ministry of Rural Development with support from UNICEF, the Global Sanitation Fund and the ADB participated in the formulation of the programme, which includes School Community WASH, sanitation marketing and hygiene promotion. Time frame: from 2011 to 2012.
The Global Sanitation Fund, which focuses on CLTS, sanitation marketing, hygiene promotion, capacity-building and monitoring and evaluation, are supporting the Government in scaling up sanitation in this country.

A national sanitation day has been declared by a Sub-Decree of the Royal Government of Cambodia. It takes place on 13 November and is one of the opportunities for the Ministry of Rural Development to raise public awareness and obtain support for rural sanitation and hygiene improvement.

**Private sector participation**

- Creation of a manual for household latrine selection and construction, dissemination of the manual to the local private sector and community-based organizations.
- Implementation of sanitation marketing programmes.

**Promotion of sanitation**

- School and community water sanitation and a hygiene programme for implementation at the school and community levels.
- Hygiene Promotion Programme focused on three main areas: building toilets, hand washing, safe drinking-water and safe storage.
- Sanitation marketing to improve rural sanitation in the country is being implemented in conjunction with other behaviour change communication programmes.

**Human resources**

- Cambodia indicates that central Government staff are generally better trained than local government staff.
- There has been an improvement in the skills of employees from private companies since the last TWG WSH survey in 2009.

**Table 5: Institutional framework for sanitation in Cambodia**

<table>
<thead>
<tr>
<th>Place the name of the water and sanitation agency in the cells below</th>
<th>Development of policies and strategies</th>
<th>Regulation</th>
<th>Construction of infrastructure</th>
<th>Operation and maintenance</th>
<th>Financing</th>
<th>Tariff setting</th>
<th>Cost-recovery</th>
<th>Etc… (write other types of functions if applicable)</th>
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</thead>
<tbody>
<tr>
<td><strong>Ministry of Rural Development</strong></td>
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<td>1</td>
<td>2</td>
<td>2</td>
<td>1 + 2</td>
<td>3</td>
<td>3</td>
<td>1 + 2</td>
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<tr>
<td><strong>Ministry of Industry, Mine and Energy</strong></td>
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<td>1 (Urban water)</td>
<td>1 (Urban water)</td>
<td>1 (Urban water)</td>
<td>1 (Urban water)</td>
<td>Some hygiene promotion</td>
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<tr>
<td><strong>Ministry of Health</strong></td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<td>3</td>
</tr>
<tr>
<td><strong>Ministry of Economics and Finance</strong></td>
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<td>3</td>
<td>3</td>
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<td>1 + 2</td>
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<td>2</td>
</tr>
<tr>
<td><strong>Provincial Department for Rural Development</strong></td>
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<td>2</td>
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<tr>
<td><strong>District Office of Rural Development</strong></td>
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<tr>
<td><strong>Municipal institutions</strong></td>
<td>Local entrepreneur</td>
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<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td><strong>Private sector</strong></td>
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<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Finance

- It was reported that US$ 1 million was spent on sanitation in 2010 at the national Government level. The previous survey in 2009 indicated a total expenditure of US$ 2 million in 2008. External partners reduced their expenditure from US$ 20 million in 2008 to about US$ 10 million in 2010. The private sector spent about US$ 5 million in 2010.
- It has been reported that the financial resources required to achieve the national sanitation targets are insufficient. More resource mobilization needs to be carried out for rural sanitation and hygiene improvement.

Institutional framework for sanitation

- Sanitation responsibilities reside in the relevant ministry or ministries; a cross-departmental coordination mechanism exists but functions intermittently.
- The table below indicates the main institutions responsible for the different aspects of water supply and sanitation.

Two crucial issues for sanitation development

- The formal national coordination mechanism is the Technical Working Group for Rural Water Supply, Sanitation and Hygiene (TWG-RWSSH). Its main aim is to facilitate the formulation of the strategy and policy on RWSSH.
- Monthly technical coordination meetings to facilitate the discussion around strategic and technical issues related to rural sanitation and hygiene.

Successful experiences

It was reported that the implementation of CLTS was effective in changing the behaviour of the communities where this programme was implemented. The main outputs were the following: stopping open defecation, increasing the demand for sanitation and strengthening the supply side through sanitation marketing.

Key lessons learnt included the following:

- Latrine promotion through sanitation marketing in the CLTS areas tends to be more successful than in non-CLTS areas.
- Providing accessible, low-cost and good-quality sanitation products and service are crucial to increase sanitation uptake in the communities.
- Behaviour change should ideally come along with a market solution.
- Men and women should jointly decide on when and how to get a latrine from the market.
- There is a need to establish a coordination group involving the Government and development partners on CLTS and sanitation marketing.
- Schools are crucial in helping to promote sanitation and hygiene practices at the community and household levels.
1.5 Recommendations

Policies and strategies

The implementation guidelines and the operation plan of the RWSSH strategy are of utmost importance for the effective implementation of the strategy.

Legal framework

Based on decentralization and deconcentration policy, the appropriate legal framework should be worked out by the provincial and/or district council or administration, which should be in accordance with the local situation.

Institutional framework

Institutional strengthening needs to be tackled at all levels—national and subnational. The local capacity-building and strengthening are very important to the success of the sector.

Financing

Part of national budget should be directed to the local authorities, particularly to the commune councils, for the advancement of sanitation and hygiene. Larger financial support from development partners will be useful for sector development.

Human resources

- There is a need for additional financial support for capacity-building.
- There is a need for incentive approaches and motivation strategies for active rural sanitation staff both at the central and local authority levels.
- Define more clearly the role and responsibility of the staff involved in sanitation and hygiene.

Public schools and health-care establishments

- To encourage students to actively take action on Operations and Maintenance (O&M) of the water supply and sanitation facilities in health-care establishments and public schools and promote the school community WASH programme.
- School principals may want to be proactive for fund mobilization to repair water and sanitation facilities and to build new facilities where they are not available.
- Local authorities and parent associations may be involved actively in supporting operation and maintenance.

1.5.1 Monitoring and evaluation

- A monitoring and evaluation system for the sector may need to be in place in order to monitor the sector progress effectively and in a timely manner.
- Capacity-building of all concerned agencies from national to subnational, including commune councils.
- Expanding the monitoring system to the subnational level.
- Financial support is needed for building the monitoring system.

Capacity-building

Human resources development (HRD) actions need to focus on all levels of the sanitation sector. A clear HRD strategy is required.

Improving the cooperation within the TWG WSH

- Organize intercountry visits involving managers and technical personnel.
- Sharing best practice experiences across countries.
- Use of the Internet and e-mail for sharing information.
Acknowledgements

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2 China

2.1 Population, health and development

Population

Figure 39. Population in China, urban, rural and total, 1990–2015

Although the population in China is still predominantly rural, the urban and rural populations will be nearly the same by 2015.

Source: Country population from UNPD (2010)

GDP per capita

Figure 40. GDP per capita in China, 1990–2010

The GDP per capita is currently 14 times the value of that of 1990. On average, it nearly doubles every five years.

Source: World Bank (2011)
Health

**Figure 41.** Life expectancy at birth in China, 1990, 2000 and 2009

Life expectancy in China has been increasing about a year every three years over the last two decades.

Source: WHO

**Figure 42.** Infant mortality rate (probability of dying between birth and 1 year old) (per 1000 live births)

There has been an impressive reduction in infant mortality rates in China over the past two decades. The infant mortality rate in China is about a half of the value of 1990.

Source: WHO

**Figure 43.** Under-5 mortality rate (probability of dying by 5 years old) (per 1000 live births)

Source: WHO

**Table 6.** Annual morbidity and mortality due to diarrhoeal diseases, China, 2004

<table>
<thead>
<tr>
<th>Total number of cases of acute diarrhoeal diseases</th>
<th>200 486 074</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of deaths due to diarrhoeal diseases</td>
<td>55 810</td>
</tr>
<tr>
<td>Incidence rate of diarrhoeal diseases (per 1000 population)</td>
<td>154</td>
</tr>
<tr>
<td>Deaths rate of diarrhoeal diseases (per 100 000 population)</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: WHO
### Water resources

#### Figure 44. Distribution of causes of death in China among under-5 children (%) (2008)

Diarrhoeal diseases, which are mostly preventable through basic sanitation, safe drinking-water and hygiene, are responsible for 7% of all deaths in China among children under 5 years old.

Source: WHO

#### Figure 45. Proportion of annual freshwater withdrawals, China, 2000

Source: World Bank (2011)

#### Table 7. Freshwater withdrawals, China, 2000

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual freshwater withdrawals (% of internal resources)</td>
<td>19.7</td>
</tr>
<tr>
<td>Annual freshwater withdrawals, total (billion cubic meters)</td>
<td>554.1</td>
</tr>
</tbody>
</table>

Source: World Bank (2011)
2.2 Sanitation coverage

Current and past coverage

**Figure 46.** Proportion of the population in China using improved sanitation, total, urban and rural areas, 1990, 2010

Only one of two people in rural China has access to an improved sanitation facility. The increase of 14% over 18 years is not compatible with the huge economic growth of the country during the same period.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 47.** Proportion of the population using an improved, shared or other unimproved sanitation facility or practising open defecation, China, 1990, 2010

Open defecation has been nearly eradicated in China, which is indeed a great achievement. This practise, as well as the use of other unimproved sanitation facilities, is associated with acute diarrhoeal diseases and death mainly among under-5 children.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 48.** Population using improved, shared or unimproved sanitation technologies or practising open defecation, China, 1990–2010

Almost 600 million people gained access to improved sanitation in China since 1990 but nearly 500 million remain unserved.

Source: Coverage statistics from WHO/UNICEF (2012)
**Where are the unserved?**

*Figure 49. Population without access to improved sanitation in urban and rural areas in 1990 and 2010*

While the urban population not using an improved sanitation facility increased by nearly 7 million people, the rural unserved were reduced by over 400 million. These changes occurred regardless of the fact that while the urban population practically doubled since 1990, the rural population experienced a reduction of 8% during the same period.

Source: Coverage statistics from WHO/UNICEF (2012)

**Achieving the MDG**

*Figure 50. Change in the proportion of people with improved sanitation from 1990 to 2010 and projection of change from 2010 to 2015*

If the current coverage trend is confirmed, China will exceed by 12% the MDG target for sanitation in 2015.


*Figure 51. Population served with improved sanitation in 1990 and 2010 and projected and required additional populations to be served by 2015, China*

According to the current trend, China will provide access to improved sanitation to an additional 144 million people from 2010 to 2015 and this is beyond what is needed for the achievement of the MDG sanitation target in this country.

2.3 Hygiene

Crucial issues for hygiene development

- Hygiene education programmes have not evolved from 2009. It was still considered as “very poor” in 2011. Although a strategy exists, it has limited support and is being implemented partially. Hygiene in China is oriented by its 11th Five-Year Plan and the plan of safe water supply systems, which includes the availability of a washing room for each family in rural areas.
- The key issues affecting the current levels of hygiene are the following:
  - Lack of investment.
  - Poor monitoring of sanitation.
  - Need for enhancing management of capacity-building and law enforcement and supervision.

Status of sanitation and hygiene in schools

- Sanitation facilities in schools are available but their quality is not adequate.
- Statistics about the quantity and state of the sanitation facilities in China are not available.
- Hygiene is not included in the primary or secondary school curricula.

Status of sanitation and hygiene in health-care facilities

- Sanitation facilities in health-care establishments are available but their quality is not adequate.
- Statistics about the quantity and state of the sanitation facilities in health care establishments in China are not available.

2.4 Sector issues

Main constraints for sanitation development

- Poor coordination of different agencies. Cross-departmental coordination mechanisms exist but function intermittently.
- Lack of financial resources.
- Sanitation development is not keeping pace with current requirements.
- The development of urban and rural areas is unbalanced.

Monitoring sanitation

- The monitoring system for sanitation is not well coordinated, which results in conflicting information from different agencies.

Major initiatives, plans or programmes

- There is a national five-year plan, which includes sanitation concerns, from 2011 to 2015. Some of the sanitation targets of this plan include the following:
  - By 2015, the urban garbage treatment rate is not to be less than 80%.
  - By 2015, the urban sewage treatment rate is not to be less than 85% of all wastewater produced.
- There is a national hygiene and sanitation five-year plan that includes the aim of achieving a washing room for each family in rural, urban and peri-urban areas.

Private sector participation

Actions have been taken in recent years aimed at encouraging the private sector to participate in sanitation development. They included the following:

- Raise public awareness through publicity.
- Clearer rules for private sector involvement through adequate regulation.
Promotion of sanitation

- The national Government encourages local governments through funds, facilities, policies, etc., to pay necessary attention to sanitation and to achieve national sanitation programme targets. For example, the national Government has been a strong advocate of reforms in the rural water supply and sanitation sector across China to expand access to basic services and to create replicable models for scaling up.
- It is considered, however, that the participation of women, children, poor families and the public and private sectors in planning and implementing sanitation programmes is still insufficient in China.

Human resources

- In general, local government staff and the local private sector do not count on well-trained or a sufficient number of staff to meet the sanitation sector development requirements. Although many civil servants are well trained, they do not meet national requirements.

Finance

- Financial resources may need to be increased if the levels of sanitation are to be improved in China.
- Information on investments in sanitation in China is currently unavailable.

Institutional framework for sanitation

- Coordination among agencies involved in sanitation should be enforced.
- There is a need to enhance capacity-building, mainly at the management level.
- Improve the supervision and control of law enforcement with regard to sanitation policies and strategies.

- Promote the development of the New Socialist Countryside.

It was not possible to prepare a chart with the main institutions responsible for the different aspects of water supply and sanitation in China.

Two crucial issues for sanitation development

- The Government is trying to increase the demand for sanitation services by households and consumers through increasing the availability of funding, improving facilities and strengthening policies.
- Human, material and financial resources for sanitation and hygiene development are insufficient.
- There is a need to improve the management capacities within the sanitation sector.

Successful experiences

China has made significant progress in increasing water supply and sanitation coverage over the years, especially in urban areas.

2.5 Recommendations

Policies and strategies

The Government may want to pursue a range of policies and strategies to improve sanitation and hygiene and promote the Government’s Environmental Health Policy, the water policy and the sanitation policy.

Legal framework

Governments should have a crucial role in setting policy and steering public investments. The national Government may want to provide strong leadership through ministries
responsible for finance and planning to create the necessary environment for effective national sanitation and hygiene programmes.

**Institutional framework**

The following policy-making levels in China may want to be actively involved in sanitation issues: the national Government, the Ministry of Health, the Ministry of Environmental Protection, local governments, the Center of Disease Control and Prevention and the Institute of Health Inspection.

**Financing**

Funding for sanitation may be provided mainly by subsidies from local governments and the national Government.

**Human resources**

- Implement a qualification authentication system and gradually enlarge the qualification scope of technical staff in the field of sanitation and hygiene.
- Make greater efforts in training the managers and technical staff in the field of sanitation and hygiene to cultivate high-quality sanitation and hygiene professionals.

**Public schools and health-care establishments**

- Increase the level of investments in sanitation facilities in schools and health-care establishments;
- The Government may want to formulate a series of regulations concerning sanitation in schools and health-care facilities.
- Efforts may be made to accelerate the process of capacity-building in this sector.

**Monitoring and evaluation**

- There may be a need to increase funding to create and sustain a monitoring and evaluation system.
- There may be a need to build capacity and improve the management of monitoring and evaluation systems for sanitation.

**Improving the cooperation within the TWG WSH**

- Member Countries may want to play a more active role in international water, sanitation and hygiene issues.
- Enhance the cooperation and create opportunities for an exchange of information on technologies and management experience.
- Extensively carry out international water, sanitation and hygiene cooperation.

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3 Indonesia

3.1 Population, health and development

Population

The urban population in Indonesia almost doubled over the last two decades. If the current trend is confirmed, the year 2015 will see an additional 10 million people being added to the current urban population. The population growth has been modest in rural areas with an increase of only about 5% over 20 years.

Source: Country population from UNPD (2010)

GDP per capita

Although the GDP per capita in Indonesia increased erratically between 1990 and 2005, it has more than doubled over the last five years.

Source: World Bank (2011)
There has not been any significant increase in life expectancy in Indonesia over the last decade.

The infant mortality rate in Indonesia was reduced to half the 1990 value.

Source: WHO

Table 8. Annual morbidity and mortality due to diarrhoeal diseases, Indonesia, 2004

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases of acute diarrhoeal diseases</td>
<td>86,956,646</td>
</tr>
<tr>
<td>Number of deaths due to diarrhoeal diseases</td>
<td>28,603</td>
</tr>
<tr>
<td>Incidence rate of diarrhoeal diseases (per 1000 population)</td>
<td>401</td>
</tr>
<tr>
<td>Deaths rate of diarrhoeal diseases (per 100,000 population)</td>
<td>13</td>
</tr>
</tbody>
</table>

Source: WHO
**Water resources**

**Figure 57.** Distribution of causes of death in Indonesia among under-5 children (%) (2008)

- Measles: 0%
- Diarrhoea: 15%
- Malaria: 1%
- Pneumonia: 21%
- Prematurity: 20%
- Birth asphyxia: 11%
- Neonatal sepsis: 5%
- Congenital anomalies: 6%
- Other diseases: 19%
- Injuries: 2%
- HIV/AIDS: 0%

Source: WHO

Diarrhoeal diseases are one of the greatest causes of death among under-5 children in Indonesia.

**Figure 58.** Proportion of annual freshwater withdrawals, Indonesia, 2000

- Proportion of annual freshwater withdrawal for agriculture (% of total freshwater withdrawal) 7%
- Proportion of annual freshwater withdrawal for domestic use (% of total freshwater withdrawal) 12%
- Proportion of annual freshwater withdrawal for industry (% of total freshwater withdrawal) 81%

Source: World Bank (2011)

**Table 9.** Freshwater withdrawals, Indonesia, 2000

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual freshwater withdrawals (% of internal resources)</td>
<td>5.6</td>
</tr>
<tr>
<td>Annual freshwater withdrawals, total (billion cubic metres)</td>
<td>113.3</td>
</tr>
</tbody>
</table>

Source: World Bank (2011)
3.2 Sanitation coverage

*Current and past coverage*

**Figure 59.** Proportion of the population in Indonesia using improved sanitation, total, urban and rural areas, 1990, 2010

There has been a considerable increase in sanitation coverage in both urban and rural areas over the last two decades yet half of the current population in Indonesia does not have access to improved sanitation facilities.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 60.** Proportion of the population using an improved, shared or unimproved sanitation facility or practising open defecation, Indonesia, 1990, 2010

Despite a clear improvement from 1990 until the present, open defecation is still widespread in Indonesia. One of four people still practise open defecation in the country.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 61.** Population using improved, shared or unimproved sanitation technologies or practising open defecation, Indonesia, 1990–2010

Indonesia more than doubled its population that uses improved sanitation facilities since 1990. However, the “new” population gaining access about equals population growth. Most of the unserved remain unserved.

Source: Coverage statistics from WHO/UNICEF (2012)
Where are the unserved?

**Figure 62. Population without access to improved sanitation in urban and rural areas in 1990 and 2010**

- The urban population not using an improved sanitation facility decreased from 1990 to 2010 by 20 million people. The numbers of unserved in rural areas increased slightly by 4 million. These reverse changes occurred despite of a huge urbanization process in Indonesia and a considerable decrease in the rural population over the last two decades.

Source: Coverage statistics from WHO/UNICEF (2012)

Achieving the MDG

**Figure 63. Change in the proportion of people with improved sanitation from 1990 to 2010 and projection of change from 2010 to 2015**

- If the current coverage trend is confirmed, Indonesia will be 7% short of achieving the MDG target for sanitation in 2015.


**Figure 64. Population served with improved sanitation in 1990 and 2010 and projected and required additional populations to be served by 2015, Indonesia**

- In order to achieve the MDG target for sanitation, Indonesia will need to provide access to an additional 24.3 million people from 2010 to 2015, beyond what is projected following the current trend.

Indonesia has set its own targets on different water supply and sanitation issues as follows:

- **Official targets for water supply and sanitation:**
  - Water supply: coverage targets are 75.29% for urban, 65.8% for rural and 68.86% for total (MDG target).
  - Stop Open Defecation (sanitation coverage for 100% of the total population).
  - Improvement of urban solid waste service coverage to 80% (by the implementation of Reuse, Reduce, Recycle practised nationally; solid waste final disposal sites improved with a sanitary landfill to serve 240 urban areas).

- **Other official sanitation targets to be achieved by 2014 are as follows:**
  - Development of Norms, Standards and Guidelines and capacity-building for all sanitation programmes.
  - Reduction of inundation in 100 strategic areas.

### 3.3 Hygiene

**Crucial issues for hygiene development**

- Indonesia counts on a comprehensive strategy and plan with full Government support. Such a plan is being widely implemented.
- The national programme for hygiene promotion includes the following:
  - **STBM** (*Sanitasi Total Berbasis Masyarakat* -- Community-Based Total Sanitation) -- a household sanitation programme includes stopping open defecation, hand washing with soap, manages drinking-water and food safely, manages solid waste properly and manages liquid waste safely.
  - **Sanimas** (*Sanitasi Berbasis Masyarakat* -- Sanitation by Communities programme in urban areas, especially for dense slums and low-income communities).
  - **PPSP** (*Program Percepatan Pembangunan Sanitasi Permukiman* -- Accelerated Development of Urban Sanitation) -- open defecation free, solid waste and drainage.

- Some of the activities within the above programmes involve social mobilization, communication, social marketing, community participation and advocacy.
- The key issues affecting the current levels of hygiene are the following:
  - The regulatory framework is still less than adequate. The Wastewater Act is being prepared.
  - Public awareness of the importance of clean water, sanitation and hygiene remains low.
  - Investment from Government, private and community sectors is still low, especially in the field of sanitation.

**Status of sanitation and hygiene in schools**

- There is no reliable national information on the status of sanitation and hygiene in public schools in Indonesia.

**Status of sanitation and hygiene in health-care facilities**

- There is no reliable information on the status of sanitation and hygiene in health-care establishments. However, the Ministry of Health is conducting research on health-care centres. The results will be known by the end of 2011.
3.4 Sector issues

Main constraints for sanitation development

- Incomplete policies and regulation.
- Limited funding resources.
- Lack of qualified personnel.
- Limited availability of master plans for sanitation developments.
- Low priority for sanitation development.

Monitoring sanitation

- Indonesia has a sound monitoring system but it is not well integrated into review and planning.
- While waiting for the establishment of an appropriate monitoring system, basic health research that is conducted every three years can be used for monitoring drinking-water and sanitation programmes.
- A national water and sanitation information services (NAWASIS), a web-based integrated monitoring and evaluation system, was being created. The system relies on the active participation of local government to monitor and document the improvement of water and sanitation in its area.

Major initiatives, plans or programmes

1. PPSP (Program Percepatan Pembangunan Sanitasi Permukiman)

Accelerated Development of Urban Sanitation: The programme is aimed at the improvement of sanitation development planning in cities and districts through the formulation of city sanitation strategies (CSS). The programme targets 330 cities and districts that have been identified as having sanitation problems. The CSS will be used as an instrument to advocate the issues of sanitation to the stakeholders: executive, legislative, private, donors, etc., thus increasing investment for sanitation development.

2. Healthy Cities programme (Kota Sehat)

Objective: The transition of the city to life with a safe, clean, comfortable and healthy environment for all citizens.

Target: 257 districts and cities

Brief description:

- Setting up a forum that is able to establish cooperation among communities, local governments and private parties and can accommodate the aspirations of the people and government policies in a balanced and sustainable realization of good synergy.
- The implementation of efforts to improve the quality of the physical environment and social and cultural health that can prevent the occurrence of disease risk by maximizing the potential of the resources in the city independently.
- The implementation of the patterns and mechanisms that work transparently among the various parties involved in the process of urban development management.
- Realization of conditions conducive to the whole community in order to improve productivity and economic regions and communities so as to better people’s lives and livelihoods.
- The implementation of good government performance-oriented public interest through policies and implementation arrangements that are fair and transparent.

3. Healthy Markets programme (Pasar Sehat)

Objective: The realization of the market as clean, safe, comfortable and healthy through community self-reliance.

Target: 15 cities (as pilot)
Brief description:

- Through the empowerment of the market community with the establishment of a task force, which is derived from the market’s units as the core group with the division of responsibilities and tasks agreed upon as a driver in the implementation of a healthy market.
- To advocate for the executive leadership of governors, regents, mayors and legislative institutions in the province and district and city.
- Organizing a healthy market through a pilot phase.
- Improve coordination among governments, distributors, the private sector, vendors’ associations and nongovernmental organizations to support the implementation of a healthy market.
- Increase the professionalism of the officer who handles the programme in order to facilitate healthy market implementation.
- Develop appropriate technology for waste management, food management and sanitation, clean water management and other aspects that can be applied in the market.
- Develop information, education and communication and health promotion targeted to managers, vendors and consumers.
- Develop environmental health surveillance to realize a healthy market.
- Use radio as a basic communications tool within the market community.
- Completing the structure and infrastructure needed in organizing healthy markets.

Private sector participation

Actions over past years aimed at encouraging the private sector to participate in sanitation development included the following:

- Socialization and implementation of a CBTS programme.
- Hand washing with soap programme.
- Global Handwashing Day.

Promotion of sanitation

- The term sanitation, including its goal and targets, is explicitly stated and described in the National Mid-Term Development Plan (RPJMN) 2010–2014. It becomes one of the components of preventive action in the National Priority No. 3 (Health).
- Through the PPSP programme, the national Government facilitates the local government to formulate its own city sanitation strategy as the realization of its willingness to improve sanitation. The national Government then channels the funding (public, donors, etc.) to local governments that have a city sanitation strategy. This mechanism is an incentive for cities and districts that prioritize sanitation development.
- The participation of women, children, poor families and the public and private sectors in planning and implementing sanitation programmes is insufficient.

Human resources

While the central Government counts on staff that are well trained (but are insufficient), local government or private sector staff lack training in sanitation issues.

Finance

- Total annual expenditures for sanitation in Indonesia (from 2005 to 2011), US$ 684 million.
- Total expenditures planned from 2010 to 2014, US$ 998 million.
- There was sufficient funding during the period 2010–2011 to cover the requirement of sanitation development. But there will be a gap of US$ 2.4 million during the period 2012–2014, equivalent to 43% of the total required funding.
Institutional framework for sanitation

- Sanitation is dealt with in the relevant ministry or ministries, arrangements are clear and accepted and a cross-departmental coordination mechanism exists and functions well.

The table below indicates the main actors in the sanitation sector and respective functions accordingly:

### Table 10. Institutional framework for sanitation in Indonesia

| Types of institutions responsible for the different aspects of water supply and sanitation | Place the name of the water and sanitation agency in the cells below | Development of policies and strategies | Regulation | Construction of infrastructure | Operation and maintenance | Financing | Tariff setting | Cost-recovery | Etc… (write other types of functions if applicable) |
|---|---|---|---|---|---|---|---|---|---|---|
| Main national Government institutions | Ministry of Health | 1 | 1 | 2 | 3 | 2 | 3 | 3 |
| | Ministry of Public Works | 1 | 1 | 2 | 3 | 2 | 3 | 3 |
| | Health Agency | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| | Hygiene Agency | 1 | 1 | 2 | 1 | 2 | 2 | 2 |
| Local government institutions (regional, provincial, districts) | Public Works Department | 1 | 1 | 2 | 1 | 2 | 2 | 2 |
| | | | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| Municipal institutions | Community-Based Organization | | | | | | | | |
| Private sector | | | | | | | | | |
| Nongovernmental organizations | | | | | | | | | |
| Other (indicate other types of institutions in the cells below) | | | | | | | | | |

Responsibilities: 1 if leading agency; 2 if the agency participates but not as main agency; 3 if the agency is not involved in the function.


The most crucial issues for sanitation development

- Increasing access of the community to basic sanitation through boosting investment in the management of a central wastewater system and providing community-based sanitation systems with special attention to giving support to a poor household.
- Increasing public awareness about the importance of healthy behaviour through information, education and communication and infrastructure development for water supply and sanitation facilities in schools.
- Improving the development planning system for drinking-water and basic sanitation through the formulation of master plans for a water supply system (RIS-SPAM), formulation of city sanitation strategies (SSK) and monitoring and evaluating implementation.
- Improving the management of drinking-water and basic sanitation through preparation of business plans, corporatization, asset management and capacity-building of human resources for institutions and communities; increasing cooperation among government agencies, between government agencies and among the government, the private sector and the public; improved linkage between the management systems applied by the communities and government systems; and optimizing the use of financial resources.
Increase the awareness of local government for sanitation and drinking-water issues, using the indicator of the increase of local investment spending to improve access to improved drinking-water and basic sanitation that is focused on services for the urban population, especially the poor, and areas with a high sanitation risk.

Improving investment to stimulate the active participation of the private sector and the community through public/private partnerships and corporate social responsibility and the development and marketing of appropriate technology for rural water supply and sanitation systems.

The two most crucial aspects are:

- Encourage the establishment of the institutions that manage the sanitation infrastructure in the regions such as public service agencies, the Technical Implementation Unit, etc.
- Achieve the sustainability of the institutional framework.

Successful experiences

The SANIMAS programme has been continuing since 2003.

Total SANIMAS were built at 467 locations across 30 provinces in Indonesia.

The SANIMAS programme is very supportive of the MDG targets.

SANIMAS will be operated and maintained by a community-based organization. Operating and maintenance costs are obtained from a community’s routine fees.

Key lessons learnt:

Sanitation development should involve many stakeholders. Where the management of sanitation is handed over to communities, local governments must retain the role of monitoring and evaluating.

3.5 Action undertaken following the Beppu Declaration

Action 1:
Implement the Community-based Water Supply and Sanitation project in 175 districts (Ministry of Health: Community Water Services and Health Project, in 20 districts, from 2008 to 2011, and the Ministry of Public Works: PAMSIMAS, in 155 districts, from 2009 to 2012).

Action 2:
The projects mentioned above are or were carried out with the participation of women, children, poor families and civil society in the planning, construction, operation and maintenance phases and the implementation of sanitation and hygiene programmes in the post-construction and beyond the duration of the project.

Action 3:
The location of above projects are or were chosen in ways that benefit the poor and the vulnerable and in the villages with a high incidence of water- and sanitation-related diseases and low coverage of clean water and sanitation facilities.

3.6 Recommendations

Policies and strategies

- Increase coverage of improved sanitation and drinking-water through the development and improvement of water supply systems; development and improvement of sanitation facilities; development and improvement of
transmission and the distribution network of drinking-water and sanitation facilities in urban areas; development and improvement of clean water and sanitation facilities with community-based approaches and cross-sectoral support in rural areas.

- Increasing public awareness concerning the importance of healthy behaviour (PHBS = Perilaku Hidup Bersih dan Sehat) through information, education and communication and infrastructure development of water supply and sanitation facilities in schools.

Legal framework

Improve the regulatory frameworks at the central and regional levels (provincial, district and municipal) to support the provision of drinking-water and basic sanitation through additions, revisions and deregulation.

Institutional framework

Improve cross-sectoral coordination through the establishment of the AMPL (Drinking-Water and Environmental Sanitation) Working Group.

Financing

- Increase local investment to improve access to drinking-water and basic sanitation that is focused on services for the urban population, especially the poor.
- Improve the investment willingness to stimulate the active participation of the private sector and communities through public–private partnerships (PPP).
- Special central Government funds allocation for sanitation since 2009.

Human resources

- Carry out capacity-building for health workers at the central and regional levels.
- Carry out capacity-building for laboratory workers.

Public schools and health-care establishments

- Improve the coordination among related ministries at the national level, government offices at the provincial and city and district levels, and government and nongovernmental parties, such as nongovernmental organizations.
- Increase the commitment of local governments concerning the availability of water supply and sanitation facilities in every school and health-care establishments.
- Water, sanitation and hygiene may be added to the school curriculum.

Monitoring and evaluation

There is no unified national sanitation and drinking-water monitoring system. Each ministry related to sanitation has its own monitoring system based on its programmes (Ministry of Public Works, Ministry of Health, Badan Pusat Statistik [BPS-Statistics Indonesia], etc.).

- Ministry of Health and BPS: Carry out regular basic health research every three years, including water supply and sanitation data collection.
- Ministry of Public Works: Creates annual reports from data collected from districts and municipal agencies.

Improving cooperation within the TWG WSH

The presence of a web page is required, maintained by the Secretariat of TWG, where information concerning knowledge and best practices can be accessed, uploaded and downloaded by the members of the TWG WSH through web master management.
- There is a need on the web page for a database concerning sanitation champions (experts, government organizations, donor agencies, nongovernmental organizations, the private sector) involved in drinking-water supply, sanitation and hygiene development programmes.
- A discussion forum needs to be provided on the web page so that East Asia countries can benefit from the implementation of programmes, best practices and the technologies of other countries effectively and efficiently.

Acknowledgements

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Jl. Patimura 20, Jakarta
4 The Lao People’s Democratic Republic

4.1 Population, health and development

Population

Figure 65. Population in the Lao People’s Democratic Republic, urban, rural and total, 1990–2015

The urban population in the Lao People’s Democratic Republic more than tripled from 1990 to 2010. Despite this accelerated rate of urbanization, the rural population currently exceeds the doubling of the urban population.

Source: Country population from UNPD (2010)

GDP per capita

Figure 66. GDP per capita in the Lao People’s Democratic Republic, 1990–2010

GDP per capita in the Lao People’s Democratic Republic experienced a modest increase from 1995 to 2005. From 2005 to 2010, however, it increased at a much higher rate (250%).

Source: World Bank (2011)
**Health**

**Figure 67.** Life expectancy at birth in the Lao People’s Democratic Republic, 1990, 2000 and 2009

Despite a meaningful increase in life expectancy in the Lao People’s Democratic Republic over the last 20 years, it remains one of the lowest among East Asia countries.

Source: WHO

**Figure 68.** Infant mortality rate (probability of dying between birth and 1 year old (per 1000 live births)

The infant mortality rate in the Lao People’s Democratic Republic has been reduced to almost one third of the 1990 value.

Source: WHO

**Figure 69.** Under-5 mortality rate (probability of dying by 5 years old) (per 1000 live births)

Source: WHO

**Table 11.** Annual morbidity and mortality due to diarrhoeal diseases, Lao People’s Democratic Republic, 2004

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases of acute diarrhoeal diseases</td>
<td>2,892,764</td>
</tr>
<tr>
<td>Number of deaths due to diarrhoeal diseases</td>
<td>2,096</td>
</tr>
<tr>
<td>Incidence rate of diarrhoeal diseases (per 1000 population)</td>
<td>500</td>
</tr>
<tr>
<td>Death rate of diarrhoeal diseases (per 100,000 population)</td>
<td>36</td>
</tr>
</tbody>
</table>

Source: WHO
**Figure 70.** Distribution of causes of death in Lao People’s Democratic Republic among under-5 children (%) (2008)

Diarrhoeal diseases are one of the greatest causes of death among under-5 children in the Lao People’s Democratic Republic.

Source: WHO

### Water resources

**Figure 71.** Proportion of annual freshwater withdrawals, the Lao People’s Democratic Republic, 2000

Source: World Bank (2011)

<table>
<thead>
<tr>
<th>Table 12. Freshwater withdrawals, the Lao People’s Democratic Republic, 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual freshwater withdrawals (% of internal resources)</td>
</tr>
<tr>
<td>Annual freshwater withdrawals, total (billion cubic metres)</td>
</tr>
</tbody>
</table>

Source: World Bank (2011)
4.2 Sanitation coverage

Current and past coverage

**Figure 72.** Proportion of the population in the Lao People’s Democratic Republic using improved sanitation, total, urban and rural areas, 1995, 2010

The proportion of people served with improved sanitation almost quadrupled from 1995 to 2010. However, despite this major progress, three of five people in the Lao People’s Democratic Republic remain unserved.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 73.** Proportion of the population using an improved, shared or other unimproved sanitation facility or practising open defecation, the Lao People’s Democratic Republic, 1990, 2010

Despite a reduction of the proportion of people practising open defecation in the Lao People’s Democratic Republic from 1990 to the present, nearly one of three people still practise open defecation in the country.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 74.** Population using improved, shared or unimproved sanitation technologies or practising open defecation, the Lao People’s Democratic Republic, 1995–2010

The Lao People’s Democratic Republic almost quintupled its population using improved sanitation facilities since 1995. However, even if the population practising open defecation in the country has been halved over the last 15 years, it is still practised by almost 28% of the population, especially those living in rural areas.

Source: Coverage statistics from WHO/UNICEF (2012)
Where are the unserved?

Both the urban and rural populations not served with improved sanitation in the Lao People’s Democratic Republic were reduced considerably from 1995 to 2010. Nevertheless, the population unserved in rural areas is almost 10 times more numerous than the unserved in urban areas.

Source: Coverage statistics from WHO/UNICEF (2012)

Achieving the MDG

If the current coverage trend is confirmed, the Lao People’s Democratic Republic will exceed the MDG sanitation target by 18 percentage points.

Because of the lack of a coverage estimate for 1990, the 1995 value was taken as the baseline for the calculation of the MDG target.

According to the current trend, the Lao People’s Democratic Republic will provide access to improved sanitation to an additional 1.24 million people from 2010 to 2015. The MDG sanitation target has been met.

Because of the lack of a coverage estimate for 1990, the 1995 value was taken as the baseline for the calculation of the MDG target.
4.3 Hygiene

Crucial issues for hygiene development

- Coverage of water and sanitation in rural and remote areas is still low.
- Discontinuous support from donors because sanitation and hygiene promotion needs time.
- Many ethnic groups located in remote areas are in need of more specific information, education and communication materials.
- The Lao People’s Democratic Republic has a comprehensive strategy and plan, which has full Government support and is under implementation. This marks good progress from the previous EASAN assessment when it was pointed out that there was a partial strategy and plan with limited support.

Status of sanitation and hygiene in schools

- About 24% of the public primary schools counted with adequate sanitation facilities in 2008.
- Both quantity and quality of sanitation should be improved, including management, after completion of construction.

Status of sanitation and hygiene in health-care facilities

- There is no official information available on the status of sanitation and hygiene in health-care facilities.
- There is a need to develop a monitoring system at national, provincial and district levels that takes into account the status of sanitation and hygiene in health-care facilities.

4.4 Sector issues

Main constraints for sanitation development

- Poor operation and maintenance.
- Poor community participation, particularly in remote areas.
- Poor coordination of support from donors and nongovernmental organizations.
- Lack of good guidelines for sanitation improvement.

Monitoring sanitation

- There is a need to establish a national monitoring committee for sanitation services, including the appropriate working mechanism.
- Create appropriate tools for monitoring and reporting.
- Strengthen participatory monitoring.

Major initiatives, plans or programmes

- A new strategy on rural water, sanitation and hygiene has been formulated as a key official instrument for sanitation development in rural areas.

Private sector participation

- The new strategy on rural water, sanitation and hygiene takes into account private sector participation, institutional development and capacity-building.

Promotion of sanitation

The national Government is encouraging local governments to deal effectively with sanitation through the following:

- Formulation and enforcement of the appropriate sanitation regulations or guidelines.
- Increase awareness of local people on the importance of sanitation.
- Establishment of a sanitation campaign.
**Human resources**

- The sanitation sector in the Lao People’s Democratic Republic lacks skilled personnel in sufficient quantities at all levels, especially at the local government level.

**Finance**

- There is no consolidated information available on expenditure on sanitation in the Lao People’s Democratic Republic.

**Institutional framework for sanitation**

- Sanitation resides in a relevant ministry or ministries and a cross-departmental coordination mechanism exists but functions intermittently.
- Sanitation and hygiene are broad issues and are linked to many agencies. So intersectoral coordination mechanisms can be established.
- A greater political commitment and additional funding and technical support for sanitation development may be strengthened.

### Table 13. Institutional framework for sanitation in the Lao People’s Democratic Republic

<table>
<thead>
<tr>
<th>Types of institutions responsible for the different aspects of water supply and sanitation</th>
<th>Development of policies and strategies</th>
<th>Regulation</th>
<th>Construction of infrastructure</th>
<th>Operation and maintenance</th>
<th>Financing</th>
<th>Tariff setting</th>
<th>Cost-recovery</th>
<th>Etc... (write other types of functions if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main national Government institutions</td>
<td>Ministry of Health and Ministry of Public Works and Transportation</td>
<td>Ministry of Health and Ministry of Public Works and Transportation</td>
<td></td>
<td></td>
<td>Ministry of Public Works and Transportation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local government institutions (regional, provincial, districts)</td>
<td>Regional, provincial, districts and villages</td>
<td>Villages</td>
<td>Government and Donors</td>
<td>Villages</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Municipal institutions</td>
<td>Municipal institutions of Public Works and Transportation Division</td>
<td>Households</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private sector</td>
<td>Privates</td>
<td>Privates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nongovernmental organizations</td>
<td>Nongovernmental organizations</td>
<td>Villages</td>
<td>Villages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (indicate other types of institutions in the cells below)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table below indicates the main actors in the sanitation sector and respective functions accordingly:

**The most crucial issues for sanitation development**

- There is a need for increasing the financial support to sanitation in rural and remote areas.
- Increase awareness on the importance of sanitation.
- Strengthen monitoring.

**Successful experiences**

The Lao People’s Democratic Republic is on track to achieve the MDG sanitation target. The key factors that were viewed as crucial to such achievement are:

- Political commitment.
- Stronger institutional mechanisms, including coordination and cooperation among concerned agencies.
- Focus on rural and remote areas, including ethnic minority groups.
- Monitoring and evaluation.
- Greater awareness and capacity-building.

**4.5 Action undertaken following the Beppu Declaration**

**Action 1**
Dissemination in the Lao language of the relevant documentation from the first EASAN conference and the Beppu Declaration.

**Action 2**
Rural Water Supply, Sanitation and Hygiene Strategy nearly completed.

**Action 3**
Updating of the drinking-water quality standards of the Lao People’s Democratic Republic.

**4.6 Recommendations**

**Policies and strategies**

Complete the Rural Water Supply, Sanitation and Hygiene Strategy for the Lao People’s Democratic Republic and have it endorsed by the Ministry of Health.

**Legal framework**

Finalize the continuing revision of the country’s drinking-water quality standards.

**Institutional framework**

Establish a water, sanitation and hygiene committee led by the Vice-Prime Minister to be integrated by the concerned national agencies. The secretariat of such a committee should be hosted by the Ministry of Health.

**Financing**

Financing the sanitation sector should be a concern of all stakeholders, including the Government, international agencies, bilateral agencies, nongovernmental organizations, the private sector and communities.

**Human resources**

- Improve the human resources involved with sanitation, both in terms of quantity of personnel and skills, at the district and village levels.
- Training programmes should include staff from communities in rural and remote areas.
- Implement training of staff and exchange of experiences among villages.
- There is a need for a long-term capacity-building programme.
Public schools and health-care establishments

- Additional financial support for sanitation and hygiene in both schools and health-care establishments should be provided by the Government and external support agencies.
- Sanitation in public schools and health-care establishments should be clearly included in the national water, sanitation and hygiene strategy.
- There is a need for better coordination and cooperation among the agencies involved in sanitation in the country.

Monitoring and evaluation

- There is a need to strengthen the monitoring and evaluation system of the country that deals with sanitation and hygiene.

Improving the cooperation within the TWG WSH

- Increase the exchange of information and intercountry cooperation through workshops, meetings or seminars.
- Establish a website to facilitate the communication and exchange of information.
- Organize study tours where possible.

Acknowledgements

The following person provided the sector information included in this analysis:

Dr Tayphasavanh Fengthong,
Environmental Health Division,
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Ministry of Health, the Lao People’s Democratic Republic, provided the sector information included in this analysis.
5 Malaysia

COUNTRY PROFILES

5.1 Population, health and development

Population

Figure 78. Population in Malaysia, urban, rural and total, 1990–2015

Source: Country population from UNPD (2010)

GDP per capita

Figure 79. GDP per capita in Malaysia, 1990–2010

Source: World Bank (2011)
Health

**Figure 8.0.** Life expectancy at birth in Malaysia, 1990, 2000 and 2009

There has not been a significant increase in life expectancy in Malaysia over the last two decades. However, life expectancy in this country is one of highest in East Asia.

Source: WHO

**Figure 8.1.** Infant mortality rate (probability of dying between birth and 1 year old) (per 1000 live births)

The infant mortality rate in Malaysia has been reduced to about one third of the 1990 value. However, it is still three times higher than that of the higher-income countries in the region.

Source: WHO

**Figure 8.2.** Under-5 mortality rate (probability of dying by 5 years old) (per 1000 live births)

Source: WHO

**Table 14.** Annual morbidity and mortality due to diarrhoeal diseases, Malaysia, 2004

On average, for every five people in Malaysia, about two experienced acute diarrhoea in 2004. This number is exceedingly high given the good statistics on access to improved drinking-water and sanitation in this country.

<table>
<thead>
<tr>
<th></th>
<th>Total number of cases of acute diarrhoeal diseases</th>
<th>Number of deaths due to diarrhoeal diseases</th>
<th>Incidence rate of diarrhoeal diseases (per 1000 population)</th>
<th>Deaths rate of diarrhoeal diseases (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 951 426</td>
<td>1033</td>
<td>435</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: WHO
**Water resources**

**Figure 83.** Distribution of causes of death in Malaysia among under-5 children (%) (2008)

Diarrhoeal diseases are no longer among the greatest causes of death among under-5 children in Malaysia. Yet, for every 100,000 people, one still dies of a diarrhoeal disease in this country.

Source: WHO

**Table 15.** Freshwater withdrawals, Malaysia, 2000

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual freshwater withdrawals (% of internal resources)</td>
<td>2.1</td>
</tr>
<tr>
<td>Annual freshwater withdrawals, total (billion cubic metres)</td>
<td>12.4</td>
</tr>
</tbody>
</table>

Source: World Bank (2011)
5.2 Sanitation coverage

Current and past coverage

**Figure 85.** Proportion of the population in Malaysia using improved sanitation, total, urban and rural areas, 1990, 2010

With a 12 percentage point increase in sanitation coverage from 1990 to 2010, Malaysia has nearly reached universal coverage.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 86.** Proportion of the population using an improved, shared or other unimproved sanitation facility or practising open defecation, Malaysia, 1990, 2010

Open defecation has been practically eradicated in Malaysia.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 87.** Population using improved, shared or unimproved sanitation technologies or practising open defecation, Malaysia, 1990–2010

About 10.6 million people gained access to improved sanitation from 1990 to 2010 in Malaysia. About 1.2 million remain unserved.

Source: Coverage statistics from WHO/UNICEF (2012)
Where are the unserved?

**Figure 88.** Population without access to improved sanitation in urban and rural areas in 1990 and 2010

While the urban population without access to improved sanitation was 60% higher than the rural population, this situation was inverted in 2010 with the urban unserved being almost double that of the rural population unserved.

Source: Coverage statistics from WHO/UNICEF (2012)

Achieving the MDG

**Figure 89.** Change in the proportion of people with improved sanitation from 1990 to 2010 and projection of change from 2010 to 2015

If the current coverage trend is confirmed, Malaysia will practically achieve universal coverage by 2015. The MDG sanitation target was achieved early in the 2000s.


**Figure 90.** Population served with improved sanitation in 1990 and 2010 and projected and required additional populations to be served by 2015, Malaysia

About 3 million people will be provided with access to improved sanitation facilities in Malaysia from 2010 to 2015. This will nearly ensure universal coverage with improved sanitation.

6 Mongolia

6.1 Population, health and development

Population

**Figure 91.** Population in Mongolia, urban, rural and total, 1990–2015

The population in Mongolia has been predominantly urban since before the 1990s, with the ratio of urban and rural populations gradually increasing over the past decades. By 2015, the urban population in Mongolia will be nearly double that of the rural population.

Source: Country population from UNPD (2010)

GDP per capita

**Figure 92.** GDP per capita in Mongolia, 1990–2010

Following a period of rapid reduction of the GDP per capita during the 1990s, Mongolia experienced an impressive increase over the 2000s of almost 500%.

Source: World Bank (2011)
Health

Figure 93. Life expectancy at birth in Mongolia, 1990, 2000 and 2009

Little progress was achieved in terms of life expectancy in Mongolia during the 1990s. The situation improved during the 2000s with an increase of five years from 2000 to 2009.

Source: WHO

Figure 94. Infant mortality rate (probability of dying between birth and 1 year old (per 1000 live births)

The infant mortality rate in Mongolia in 2009 reached an impressive one third of the value observed in 1990.

Source: WHO

Figure 95. Under-5 mortality rate (probability of dying by 5 years old) (per 1000 live births)

Source: WHO

Table 16. Annual morbidity and mortality due to diarrhoeal diseases, Mongolia, 2004

<table>
<thead>
<tr>
<th>Disease</th>
<th>Total number of cases</th>
<th>Number of deaths</th>
<th>Incidence rate</th>
<th>Death rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute diarrhoeal diseases</td>
<td>535 909</td>
<td>482</td>
<td>213</td>
<td>19</td>
</tr>
</tbody>
</table>

On average, for every five people in Mongolia, about one experienced acute diarrhea in 2004.

Source: WHO
Diarrhoeal diseases are responsible for the death of 4% of the population under 5 years old in Mongolia.

### Water resources

#### Figure 97. Proportion of annual freshwater withdrawals, Mongolia, 2000

- **Proportion of annual freshwater withdrawal for agriculture**: 46% (% of total freshwater withdrawal)
- **Proportion of annual freshwater withdrawal for domestic use**: 31% (% of total freshwater withdrawal)
- **Proportion of annual freshwater withdrawal for industry**: 23% (% of total freshwater withdrawal)

Source: World Bank (2011)

#### Table 17. Freshwater withdrawals, Mongolia, 2000

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual freshwater withdrawals (% of internal resources)</td>
<td>1.4</td>
</tr>
<tr>
<td>Annual freshwater withdrawals, total (billion cubic metres)</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Source: World Bank (2011)
6.2 Sanitation coverage

Current and past coverage

Figure 98. Proportion of the population in Mongolia using improved sanitation, total, urban and rural areas, 1990, 2010

The proportion of population using improved sanitation in Mongolia remained nearly unchanged since 1995.

Source: Coverage statistics from WHO/UNICEF (2012)

Figure 99. Proportion of the population using an improved, shared or other unimproved sanitation facility or practising open defecation, Mongolia, 1990, 2010

With one in every two people without access to improved sanitation and 13% of the population practising open defecation, Mongolia is one of the countries in greatest need in East Asia with regard to investments in improved sanitation infrastructure.

Source: Coverage statistics from WHO/UNICEF (2012)

Figure 100. Population using improved, shared or unimproved sanitation technologies or practising open defecation, Mongolia, 1990–2010

The increase in the numbers of people using an improved sanitation facility (increase of 250 000 people) was insufficient to cope even with the population growth in Mongolia from 1995 to 2010.

Source: Coverage statistics from WHO/UNICEF (2012)

5 The JMP does not have statistics on access to improved sanitation for 1990.
6.2.1 Where are the unserved?

**Figure 101.** Population without access to improved sanitation in urban and rural areas in 1995 and 2010

The disparity between urban and rural populations with improved sanitation decreased from 1995 to 2010. However, the overall numbers of people unserved is increasing in both urban (170,000 additional people unserved) and rural areas (30,000 additional people unserved) from 1995 to 2010.

Source: Coverage statistics from WHO/UNICEF (2012)

6.2.2 Achieving the MDG

**Figure 102.** Change in the proportion of people with improved sanitation from 1995 to 2010 and projection of change from 2010 to 2015

Mongolia will fall short by 24 percentage points to achieve the MDG target for sanitation in 2015 if the current trend is confirmed.

* Because of the lack of a coverage estimate for 1990, the 1995 value was taken as the baseline for the calculation of the MDG target.


**Figure 103.** Population served with improved sanitation in 1995 and 2010 and projected and required additional populations to be served by 2015, Mongolia

In order to achieve the MDG target for sanitation, Mongolia will need to provide access to an additional 710,000 people from 2010 to 2015 beyond what is projected, according to the current trend (120,000).

6.3 Hygiene

Crucial issues for hygiene development
- Hygiene promotion is included as one of the strategic objectives within the health sector master plan, the National Programme on Environmental Health and the sanitation programme, all of them approved by the Mongolian Government for 2005 and 2006.
- Activities dealing with hygiene promotion are considered in programmes focused on communication, social marketing and advocacy for communities and professionals. Media programmes on TV, workshop training, field visits and working out curricula for universities and public schools are some of the interventions being undertaken.
- There is a need to create awareness among policy-makers about the importance of hygiene promotion and the establishment of an environmental health fund.
- There is a need to revise existing curricula on hygiene promotion so that they include social mobilization and community participation.
- Encourage social mobilization and community participation for the improvement of hygiene.
- Hand washing basins are inadequate in most schools in soum (district) centres.

Status of sanitation and hygiene in schools
- About 10% of soum and town hospitals and schools in urban areas are connected to a central water supply and sewage system.
- In 2005, a WHO/MOH survey on water, sanitation and hygiene in 220 hospitals and schools showed that more than 75% of them did not have running water and adequate sanitation facilities.
- The sanitation situation generally is good in urban centres where the toilets are connected to the sewerage systems. But they are very poor in rural areas, namely in most soum centres and villages. Hand washing basins are inadequate in most schools in soum centres.
- Despite the availability of a component of hygiene behaviour in school curricula, poor facilities for hand washing prevent good hygiene behaviours, especially in rural areas.

Status of sanitation and hygiene in health-care facilities
- After the foregoing survey, WHO/Arab Gulf Programme for Development (AGFund), WHO/United Nations Trust Fund for Human Security, WHO/USAID and ADB funded the improvement of sanitation facilities in 46 hospitals. Currently, 54% of soum hospitals have adequate sanitation facilities.

6.4 Sector issues

Main constraints for sanitation development
- The financial resources available are not sufficient for the construction and operation of sanitation facilities.
- Many outdated technologies are still being used in the sanitation sector, which hampers the functioning of the systems and makes operation and maintenance very difficult.
- Funding for operation and maintenance is practically unavailable, especially at the community level.
- The numbers of trained staff capable of dealing effectively with operation and maintenance is insufficient, particularly at the community level.
- Weak monitoring system.

Monitoring sanitation
- There is a monitoring system in Mongolia but it is not well integrated into review and planning.
The sector lacks a consolidated national database and a monitoring and evaluation system to monitor the water supply and sanitation MDG targets as well as other national targets, plans and programmes.

**Major initiatives, plans or programmes**

**Initiative, plan or programme 1:** The National Programme on Environmental Health was approved by the Mongolian Government in 2005.

Goal: To decrease the factors adversely affecting the environment, facilitate activities regarding the improvement of environmental health, and create conditions for safe and healthy life and work for the population, improving the intersectoral coordination and cooperation.

Objectives:

- Strengthen monitoring and legal systems.
- Enhance evaluation of adverse health impacts.
- Implement actions to reduce morbidity related to environmental pollution and promote sustainable ecosystems.
- Improve the country’s health education system.

Duration: First stage: 2006–2010

Second stage: 2011–2015

**Initiative, plan or programme 2:** The United Nations Joint Programme on Water and Sanitation in Mongolia, 2009–2011.

The overall goal of the joint programme is to increase water and sanitation provision at local levels by improving water and sanitation management to support the Government.

Objectives:

- Strengthening the legal and regulatory frameworks.
- Promoting behaviour change.
- Creating a national database on sanitation.
- Improve the monitoring of drinking-water quality.
- Increasing water and sanitation provision at the local level.
- Improving community ownership over water sources and sanitation facilities.

**Private sector participation**

The following actions promoted a greater involvement of the private sector in sanitation and hygiene:

- Sanitation facilities were built or rehabilitated through contracts with private companies under the framework of the soum hospital project funded by WHO.
- Improved sanitation facilities with solid waste plants and pit soaks were installed at three locations on the outskirts of Ulaanbaatar under the framework of the Second Ulaanbaatar Services Improvement Project funded by the World Bank.
- Under the framework of the UNDP/Mongolia Joint Programme on Water and Sanitation, the feasibility study for Indoor Water Supply and Sewerage Pipeline System and Waste Water Treatment Options in Public Buildings of soum centres was carried out by a consulting company in 2009. The overall objective of that study was to assess the current situation and further needs for achieving proper facilities.

**Promotion of sanitation**

No information was provided.

**Human resources**

No information was provided.
Finance

- There is a need to convince policy-makers of the importance of investing in sanitation and hygiene, taking into account the needs of both urban and rural areas.

Institutional framework for sanitation

- It is important to clarify the responsibilities of national and local institutions on the different sanitation functions at all levels.

The most crucial issues for sanitation development

- There is a need to mobilize the communities and the private sector, especially for the construction, operation and maintenance of facilities and promotion of behavioural change.

Successful experiences

- Pilot projects are being implemented in rural soums to improve access to safe water and sanitation facilities.

6.5 Action undertaken following the Beppu Declaration

No information was provided.

6.6 Recommendations

Policies and strategies

- Policy and regulations should address tax revenue, operation and maintenance costs and support sustainable and low-carbon emission technology strategies.

Policy to ensure that interventions are accessible to both rich and poor, urban and rural should be looked at.

Legal framework

No information was provided.

Institutional framework

- Improve management planning and organizational structure in rural areas.

Financing

- Substantial investment from the Government (Capital and operational investment).
- Low-cost options for low-income people.

Human resources

- The institutional and human resources capacity to implement and enforce policy and regulation should be strengthened.

Public schools and health-care establishments

- Organize intersectoral collaboration involving the Ministry of Education, the Ministry of Health, and the Ministry of Road, Transportation, Construction and Urban Development to improve sanitation facilities, particularly in soum centres and peri-urban areas.
- Local governments should request additional funding from the national Government, especially for the construction and operation and maintenance of facilities at the local level.
- There is a need for training staff and building capacities at the local level for a better operation and maintenance of sanitation facilities.
Monitoring and evaluation

- Government endorsed order for monitoring and evaluation of access to adequate sanitation facilities and safe water on July 2012.

Improving the cooperation within the TWG WSH

- National TWG WSH established by joint order of Minister of Health and Environment, 2011.

Acknowledgements

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7 Myanmar

7.1 Population, health and development

Population

**Figure 104.** Population in Myanmar, urban, rural and total, 1990–2015

The urban population in Myanmar increased by 60% from 1990 to 2010 while the rural population remained about the same. The rural population is still nearly double that of the urban population.

Source: Country population from UNPD (2010)

Health

**Figure 105.** Life expectancy at birth in Myanmar, 1990, 2000 and 2009

There has been a modest increase in life expectancy in Myanmar over the last 10 years; just two years in 10 years. Life expectancy at birth remains very low as compared with higher-income countries in East Asia.

Source: WHO

**Figure 106.** Infant mortality rate (probability of dying between birth and 1 year old (per 1000 live births)

Despite a decrease in the infant mortality rate in Myanmar of nearly 40% in 19 years, this indicator is still very high compared with other countries in East Asia.

Source: WHO
Table 18. Annual morbidity and mortality due to diarrhoeal diseases, Myanmar, 2004

On average, for every three people in Myanmar, about one experienced acute diarrhoea in 2004.

<table>
<thead>
<tr>
<th>Morbidity/Mortality Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases of acute diarrhoeal diseases</td>
<td>16 865 101</td>
</tr>
<tr>
<td>Number of deaths due to diarrhoeal diseases</td>
<td>19 879</td>
</tr>
<tr>
<td>Incidence rate of diarrhoeal diseases (per 1000 population)</td>
<td>351</td>
</tr>
<tr>
<td>Deaths rate of diarrhoeal diseases (per 100 000 population)</td>
<td>41</td>
</tr>
</tbody>
</table>

Source: WHO

Figure 107. Under-5 mortality rate (probability of dying by 5 years old) (per 1000 live births)

Source: WHO

Figure 108. Distribution of causes of death in Myanmar among under-5 children (%) (2008)

<table>
<thead>
<tr>
<th>Cause</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV/AIDS</td>
<td>1%</td>
</tr>
<tr>
<td>Injuries</td>
<td>28%</td>
</tr>
<tr>
<td>Other diseases</td>
<td>12%</td>
</tr>
<tr>
<td>Congenital anomalies</td>
<td>2%</td>
</tr>
<tr>
<td>Neonatal sepsis</td>
<td>8%</td>
</tr>
<tr>
<td>Birth asphyxia</td>
<td>9%</td>
</tr>
<tr>
<td>Measles</td>
<td>0%</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>12%</td>
</tr>
<tr>
<td>Malaria</td>
<td>4%</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>12%</td>
</tr>
<tr>
<td>Prematurity</td>
<td>12%</td>
</tr>
</tbody>
</table>

Diarrhoeal diseases are one of the greatest causes of death among under-5 children in Myanmar.

Source: WHO
Water resources

**Figure 109.** Proportion of annual freshwater withdrawals, Myanmar, 2000

![Proportion of annual freshwater withdrawals, Myanmar, 2000](image)

Source: World Bank (2011)

<table>
<thead>
<tr>
<th>Table 19. Freshwater withdrawals, Myanmar, 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual freshwater withdrawals (% of internal resources)</td>
</tr>
<tr>
<td>Annual freshwater withdrawals, total (billion cubic metres)</td>
</tr>
</tbody>
</table>

Source: World Bank (2011)

7.2 Sanitation coverage

**Current and past coverage**

**Figure 110.** Proportion of the population in Myanmar using improved sanitation, total, urban and rural areas, 1995, 2010

![Proportion of the population in Myanmar using improved sanitation, total, urban and rural areas, 1995, 2010](image)

There has been an increase of 21 percentage points in improved sanitation coverage in Myanmar from 1995 to 2010. The proportion of people served in rural areas increased by 26 percentage points during the same period. The disparity of urban and rural coverage, which was exceedingly high in 1995, was considerably reduced in 2010.

Source: Coverage statistics from WHO/UNICEF (2012)
Open defecation has been nearly eradicated in Myanmar. This marks major progress since 1995 when nearly one in every six people still defecated in the open.

Source: Coverage statistics from WHO/UNICEF (2012)

The population in 2010 using improved sanitation facilities was about 60% higher than the 1995 population using such services. The population practising open defecation was reduced to less than a half from 1995 to 2010.

Source: Coverage statistics from WHO/UNICEF (2012)

Where are the unserved?

There has been great improvement from 1995 to 2010 concerning the disparity of urban and rural populations not served with sanitation. Even taking into account such improvement, the rural population unserved still represents triple the number of the urban unserved.

Source: Coverage statistics from WHO/UNICEF (2012)
Achieving the MDG

**Figure 114.** Change in the proportion of people with improved sanitation from 1995 to 2010 and projection of change from 2010 to 2015

The MDG sanitation target will be exceeded by 5 percentage points if the current coverage trend is confirmed from 2010 to 2015.


**Figure 115.** Population served with improved sanitation in 1995 and 2010 and projected and required additional populations to be served by 2015, Myanmar

If the current trend is confirmed, another 4.8 million people will gain access to improved sanitation between 2010 and 2015 as opposed to about 13.5 million from 1995 to 2010.


Myanmar has set its own targets for 2015 on different water supply and sanitation issues as follows:

- Target for urban sanitation coverage: 93%
- Target for rural coverage: 89%
- Target for total coverage: 90%

**7.3 Hygiene**

**Crucial issues for hygiene development**

- Awareness raising on attitude and hygiene practices.
- Promoting hand washing sites in front of toilets.
- Celebrating global hand-washing days.
- Practising food hygiene properly.
Status of sanitation and hygiene in schools

- Proportion of public primary schools with adequate sanitation facilities: 75% (2007).
- Proportion of public secondary schools with adequate sanitation facilities: 85% (2007).

Status of sanitation and hygiene in health-care facilities

- Proportion of public hospitals and health-care centres with adequate sanitation facilities: 90% (2007).

7.4 Sector issues

Main constraints for sanitation development

- Lack of a specific financial allocation for sanitation at central and local levels.
- The national monitoring and evaluation system on sanitation services may be strengthened.
- Improper maintenance of existing sanitary latrines.
- Very difficult to construct latrines in hard-to-reach and remote areas.
- Ineffective participation of communities.
- Insufficient supervision and monitoring at different levels.
- Support for handicapped people, including poor and disabled people.

Monitoring sanitation

- There is a sound monitoring system in Myanmar that is well coordinated with a clear definition of responsibilities and integrated into sector review and planning.

Major initiatives, plans or programmes

- Social mobilization projects have been implemented and four “cleans” (clean hands, clean food, clean toilets and clean water) are included in the content.
- Commemoration of National Sanitation Week since 1998. Objectives: to increase sanitation coverage, to reduce the burden of excreta-related diseases, and to achieve universal coverage with sanitation by the year 2020. Both central and local governments participate actively.
- Rural sanitation is one of the main activities in the rural development plan of Myanmar. This reflects the importance given to sanitation in this country.

Private sector participation

Actions encouraging the participation of the private sector in sanitation issues included the following:

- National sanitation weeks have been conducted with the involvement of Government departments, communities and the private sector nationwide.
- Encouragement of local entrepreneurs.

Promotion of sanitation

- High political commitment for achieving 13 years of national sanitation weeks.

Human resources

- Generally, the sanitation and hygiene sector have sufficient and well-trained staff at the central level. At other levels, the sanitation personnel, although sufficient in numbers, are not well trained.
- Human resource capacity needs to be strengthened.
- There is a need to recruit additional personnel, especially sanitation workers at the local level.
- Full-time equivalent hygiene promoters should be trained.
- Assign at least one promoter to each township.
Finance

- There is no consolidated information available about expenditures concerning sanitation in Myanmar.

Institutional framework for sanitation

- Sanitation resides in a relevant ministry or ministries, arrangements are clear and accepted and a cross-departmental coordination mechanism exists and functions well.
- There is good collaboration and cooperation among the various stakeholders, including international and national nongovernmental organizations and international organizations, especially WHO and UNICEF.

Successful experience

Description: Sasakawa Prize (1985)

Prize accepter-Ayardaw Township, Sagaing Region.

Successful story of 100% sanitation coverage.

Key lessons learnt:

- Active community participation.
- Active involvement of authorities concerned.
- Good cooperation and coordination of Government departments at the central and local levels.
- Strong support of donor agencies.

7.5 Action undertaken following the Beppu Declaration

- Strengthening of funding from the Government.
- Upholding the cooperation, coordination and implementation of departments, donors, private sector and communities.
- Developing CLTS in line with Myanmar’s style and planning to conduct a pilot programme in two areas.

7.6 Recommendations

Policies and strategies

- Existing policies and strategies are available. However, they should be applied systematically.
- Planning and programmatic instruments (i.e. investment, sanitation assessment) for sanitation should be performed independently from those for the drinking-water sector.

Financing

- Additional financial resources are required to strengthen the sanitation sector.

Human resources

- Human resource capacity-building may be strengthened as a large-scale undertaking.

Public schools and health-care establishments

- There is a need to increase the current coverage of schools with sanitary latrines.
- It is crucial to achieve increased coordination between the Department of Health and the Department of Education.
- There is a need to achieve 100% coverage of
To improve monitoring and supervision plans dealing with sanitation.

- To include a hygiene report format in the Health Management Information System (HMIS).
- To revise and strengthen the existing monitoring system.
- To promote the sanitation sector for a long time. A visible impact has been achieved. Information-sharing among countries, through the two WSH, should be carried out continually.

The Myanmar Government has been striving to improve monitoring and supervision plans dealing with sanitation.

Acknowledgements

The following persons provided the sector information included in this analysis:

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  Dr. Than Tun Aung,
  Deputy Director Environmental Sanitation Division,
  Department of Health Office
  Nay Pyi Taw, Myanmar

COUNTY PROFILE: MYANMAR

Monitoring and evaluation

Improving the cooperation within the TWG WSH

health-care establishments with sanitary latrines.
8 The Philippines

8.1 Population, health and development

Population

![Population in the Philippines, urban, rural and total, 1990–2015](Image)

Both the urban and rural populations in the Philippines have progressed similarly over the last two decades. Both populations increased by about 50% from 1990 to 2010.

Source: Country population from UNPD (2010)

GDP per capita

![GDP per capita in the Philippines, 1990–2010](Image)

Although the GDP per capita in the Philippines experienced a modest increase between 1990 and 2005 (3.5% per annum), it has increased nearly 80% from 2005 to 2010 (12% per annum).

Source: World Bank (2011)
**Health**

*Figure 118. Life expectancy at birth in the Philippines, 1990, 2000 and 2009*

Despite a meaningful increase from 1990 to 2000, life expectancy in the Philippines experienced very limited progress from 2000 to 2009: just one year in nine years.

*Source: WHO*

*Figure 119. Infant mortality rate (probability of dying between birth and 1 year old (per 1000 live births)*

The infant mortality rate in the Philippines experienced a 40% decline from 1990 to the present. The progress, however, has not been as impressive during the 2000s.

*Source: WHO*

*Figure 120. Under-5 mortality rate (probability of dying by 5 years old) (per 1000 live births)*

*Source: WHO*

**Table 20. Annual morbidity and mortality due to diarrhoeal diseases, the Philippines, 2004**

<table>
<thead>
<tr>
<th>Measure of Diarrhoeal Disease</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases of acute diarrhoeal diseases</td>
<td>43 126 370</td>
</tr>
<tr>
<td>Number of deaths due to diarrhoeal diseases</td>
<td>11 369</td>
</tr>
<tr>
<td>Incidence rate of diarrhoeal diseases (per 1000 population)</td>
<td>514</td>
</tr>
<tr>
<td>Deaths rate of diarrhoeal diseases (per 100 000 population)</td>
<td>14</td>
</tr>
</tbody>
</table>

*Source: WHO*
### Water resources

#### Table 21. Freshwater withdrawals, the Philippines, 2000

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual freshwater withdrawals (% of internal resources)</td>
<td>16.5</td>
</tr>
<tr>
<td>Annual freshwater withdrawals, total (billion cubic metres)</td>
<td>78.9</td>
</tr>
</tbody>
</table>

Source: World Bank (2011)
8.2 Sanitation coverage

**Current and past coverage**

**Figure 123.** Proportion of the population in the Philippines using improved sanitation, total, urban and rural areas, 1990, 2010

There has been generally a meaningful increase in sanitation coverage in both urban and rural areas in the Philippines from 1990 to 2010. The disparity between urban and rural sanitation coverage was greatly reduced from 24 percentage points in 1990 to only 10 percentage points in 2010.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 124.** Proportion of the population using an improved, shared or other unimproved sanitation facility or practising open defecation, the Philippines, 1990, 2010

Following an overall improvement in sanitation service coverage from 1990 to 2010, the proportion of people practising open defecation also dropped to half during the same period. Despite this great improvement, about one of 12 people still practise open defecation in the Philippines.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 125.** Population using improved, shared or unimproved sanitation technologies or practising open defecation, the Philippines, 1990–2010

The Philippines nearly doubled its population using improved sanitation facilities since 1990. There was a shift from those practising open defecation and using other unimproved facilities towards the use of shared facilities.

Source: Coverage statistics from WHO/UNICEF (2012)
Where are the unserved?

**Figure 126.** Population without access to improved sanitation in urban and rural areas in 1990 and 2010

While the urban population not using an improved sanitation facility increased slightly from 1990 to 2010, the rural population unserved decreased by 2.6 million people during the same period.

Source: Coverage statistics from WHO/UNICEF (2012)

Achieving the MDG

**Figure 127.** Change in the proportion of people with improved sanitation from 1990 to 2010 and projection of change from 2010 to 2015

If the current coverage trend is confirmed, the Philippines will attain the MDG sanitation target.


**Figure 128.** Population served with improved sanitation in 1990 and 2010 and projected and required additional populations to be served by 2015, the Philippines

An additional 10.7 million people in the Philippines will receive access to improved sanitation facilities between 2010 and 2015. An impressive 34 million additional people gained access between 1990 and 2010.

Crucial issues and actions for hygiene development

- The National Sustainable Sanitation Program was developed last year through the Program for Sustainable Sanitation in East Asia under the World Bank–Swedish International Development Cooperation Agency (SIDA) Project. The basic communication messages included, but are not limited to the following:
  - Hand washing.
  - Promotion of Zero Open Defecation (ZOD) communities.
  - Community-led and appropriately designed toilets and septic tanks.
  - Proper disposal and treatment of septage.
  - Inter-local government units (LGU) action for water quality management.
- There is a need for a national plan on hygiene. Difficulties for putting into operation can be foreseen because of other competing health issues and lack of financial resources.

Status of sanitation and hygiene in schools

- National statistics on the status of sanitation facilities in public schools are not available.
- Sanitation facilities in schools are generally inadequate, need improvement and operation and maintenance is poor.

Status of sanitation and hygiene in health-care facilities

- National statistics on the status of sanitation facilities in health establishments are not available.
- Generally inadequate, maintenance is poor.

8.4 Sector issues

Main constraints for sanitation development

- Sanitation is not perceived as a priority.
- Weak and fragmented institutions; no lead agency and technical support unit.
- Limited budget for the national sanitation programme.
- Limited human resources capacity.
- Inadequate regulatory standards.

Monitoring sanitation

- The monitoring system in the Philippines is not well coordinated, which results in conflicting information from different agencies.
- The different terms and definitions are not standardized.
- There is a need to create a comprehensive monitoring and evaluation system.
- Funding for the monitoring and evaluation system is an important issue to be resolved.

Major initiatives, plans or programmes

- The Philippine Sustainable Sanitation Road Map has been approved by the Government. This document will serve as a guide for the sanitation sector. It will define priority strategies, outcomes and outputs for the next medium-term development
plan. The road map is being disseminated among LGUs.

- The National Sewerage and Septage Management Program was approved by the Government. The document is the national strategy for large-scale sanitation interventions addressing sanitation and sewerage in highly urbanized areas.

**Private sector participation**

The following are actions by the Government of the Philippines to stimulate the participation of the private sector in sanitation issues:

- Concession agreement with Metropolitan Waterworks and Sewerage System (MWWSS) private partners stipulated clear sanitation targets.
- More public/private partnerships are encouraged at local levels. Example: Decentralized wastewater treatment facilities operated privately in partnership with local governments.
- Microfinancing for sanitation is being offered to households by nongovernmental organizations.

**Promotion of sanitation**

- There is strong national Government support for awareness raising, capacity-building and access to financing. There

<table>
<thead>
<tr>
<th>Table 22. Institutional framework for sanitation in the Philippines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of institutions responsible for the different aspects of water supply and sanitation</td>
</tr>
<tr>
<td>Place the name of the water and sanitation agency in the cells below</td>
</tr>
<tr>
<td>Development of policies and strategies</td>
</tr>
<tr>
<td>Responsibilities: 1 if leading agency; 2 if the agency participates but not as main agency; 3 if the agency is not involved in the function</td>
</tr>
<tr>
<td>Main national Government institutions</td>
</tr>
<tr>
<td>Department of Health</td>
</tr>
<tr>
<td>Department of Public Works and Highways</td>
</tr>
<tr>
<td>Department of the Interior and Local Government</td>
</tr>
<tr>
<td>National Economic Development Agency</td>
</tr>
<tr>
<td>Department of Finance</td>
</tr>
<tr>
<td>Local government institutions (regional, provincial, districts)</td>
</tr>
<tr>
<td>Provincial Government</td>
</tr>
<tr>
<td>Municipal Government</td>
</tr>
<tr>
<td>Municipal institutions</td>
</tr>
<tr>
<td>Civil Society Groups</td>
</tr>
<tr>
<td>Private sector</td>
</tr>
<tr>
<td>DOLE Phil</td>
</tr>
<tr>
<td>Shell</td>
</tr>
<tr>
<td>Nongovernmental organizations</td>
</tr>
<tr>
<td>Center for Advanced Philippine Studies (CAPS)</td>
</tr>
<tr>
<td>Streams of Knowledge, Philippines (STREAMS)</td>
</tr>
<tr>
<td>Philippine Center for Water Sanitation (PCWS)</td>
</tr>
</tbody>
</table>

is a continuing regional roll-out of the sustainable sanitation plan.

- Implementation of CLTS in selected municipalities and barangays (districts).
- Awareness building and promotion at the local levels (by civil society, LGUs, concessionaires, the national Government).

**Human resources**

The human resources involved in sanitation interventions at the central level are generally well trained but not in sufficient numbers to cope with the required work demand. The local government staff is not well trained and is insufficient.

**Finance**

There is no national consolidated information on expenditures in sanitation. The sanitation road map has specified an estimated budget for the next five years. However, the availability of such a budget is still uncertain.

The two concessionaires in metro Manila have sufficient investments planned to meet their specific targets.

**Institutional framework for sanitation**

Sanitation resides in relevant ministry or ministries and a cross-departmental coordination mechanism exists but functions intermittently.

The table below indicates the main actors in the sanitation sector and respective functions accordingly:

**The most crucial issues for sanitation development**

- Ensure provision of funds and resources for the implementation of a national sanitation programme.
- Recognize that sanitation is not only an individual concern but also a community concern.
- Pro-poor sanitation approaches using different approaches for different realities (urban, rural, coastal, upland, emergency situations, etc.).
- Strengthening of a Department of Health unit of the Ministry of Health to function as the lead sanitation driver.
- Need for stronger linkages and support among the different ministries with sanitation-related mandates and the LGUs that are mandated to ensure basic services to their constituencies.

**Successful experiences**

1. Preparation of local sanitation plans and programmes

**Key lessons learnt:**

- Decentralized service delivery entails multistakeholder partnerships.
- Appreciation of the baseline data for planning and reference for progress monitoring.
- Political will is fundamental to mobilize human, technical and financial resources.

2. Promotion and implementation of CLTS.

**Lessons Learnt:**

- No need for subsidy.
- Sustainable sanitation through community empowerment.
8.5 Action undertaken following the Beppu Declaration

Action 1: Preparation of distinct Road Maps for Water Supply and Sustainable Sanitation.

Action 2: Formulation of a Department of Health national Sustainable Sanitation Plan.

Action 3: Approval of a National Sewerage and Septage Management Plan.

8.6 Recommendations

Policies and strategies

Congressional approval of a National Sustainable Sanitation Act.

Institutional framework

The Department of Health to take its responsibility as the lead sector driver.

Financing

More and better financing arrangements for sanitation.

Human resources

- Build and rationalize human resources for sanitation and hygiene (quality and quantity).
- Professionalize the sanitary inspectors.
- Stimulate demand for sanitation courses and professionals.
- Increase budget and incentives for human resources in sanitation and hygiene promotion.

Public schools and health-care establishments

- Build in operation and maintenance costs in the overall management of the establishments.
- Ensure availability of water supply.
- Regularly monitor levels of service and progress by the Education Ministry and the local health authorities.
- Provide sufficient budgets for sanitation in schools and public health-care establishments.

Monitoring and evaluation

- Develop a comprehensive monitoring and evaluation system.
- Institutionalize the National Sector Assessment Process.

Improving the cooperation within the TWG WSH

- Web sites can be linked.
- Sharing of experiences by themes.
- Joint project development and implementation.
- Regional training courses.
- Cross visits and twinning.

Acknowledgements

The sector information in this document was provided by:

Mr Joselito Riego de Dios
Department of Health, Rizal Avenue
Sta. Cruz, Manila
9 Thailand

9.1 Population, health and development

Population

Figure 129. Population in Thailand, urban, rural and total, 1990–2015

Despite a small reduction in the ratio between urban and rural populations, the Thai population is still predominantly rural. The rural population is almost double that of the urban population.

Source: Country population from UNPD (2010)

GDP per capita

Figure 130. GDP per capita in Thailand, 1990–2010

The GDP per capita in Thailand experienced a mixed trend from 1990 to 2005. However, it increased almost 12% per annum from 2005 to 2010.

Source: World Bank (2011)
**Health**

**Figure 131. Life expectancy at birth in Thailand, 1990, 2000 and 2009**

![Life expectancy graph](image)

Source: WHO

**Figure 132. Infant mortality rate (probability of dying between birth and 1 year old (per 1000 live births)**

Thailand has one of the lowest infant mortality rates in East Asia. It has been reduced to less than a half of the 1990 value.

![Infant mortality rate graph](image)

Source: WHO

**Figure 133. Under-5 mortality rate (probability of dying by 5 years old) (per 1000 live births)**

![Under-5 mortality rate graph](image)

Source: WHO

**Table 23. Annual morbidity and mortality due to diarrhoeal diseases, Thailand, 2004**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases of acute diarrhoeal diseases</td>
<td>18 149 702</td>
</tr>
<tr>
<td>Number of deaths due to diarrhoeal diseases</td>
<td>4630</td>
</tr>
<tr>
<td>Incidence rate of diarrhoeal diseases (per 1000 population)</td>
<td>278</td>
</tr>
<tr>
<td>Deaths rate of diarrhoeal diseases (per 100 000 population)</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: WHO
**Water resources**

*Figure 134.* Distribution of causes of death in Thailand among under-5 children (%) (2008)

Diarrhoeal diseases are still an important cause of death among under-5 children in Thailand.

Source: WHO

*Figure 135.* Proportion of annual freshwater withdrawals, Thailand, 2000

Source: World Bank (2011)

<table>
<thead>
<tr>
<th>Table 24. Freshwater withdrawals, Thailand, 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual freshwater withdrawals (% of internal resources)</td>
</tr>
<tr>
<td>Annual freshwater withdrawals, total (billion cubic metres)</td>
</tr>
</tbody>
</table>

Source: World Bank (2011)
### 9.2 Sanitation coverage

#### Current and past coverage

*Figure 136. Proportion of the population in Thailand using improved sanitation, total, urban and rural areas, 1990, 2010*

Thailand nearly has achieved universal coverage with improved sanitation facilities. This marks considerable progress compared with 1990 when about one of five people did not use an improved sanitation facility.

*Figure 137. Proportion of the population using an improved, shared or other unimproved sanitation facility or practising open defecation, Thailand, 1990, 2010*

Since 1990, when open defecation was practised by 12% of the population, Thailand has succeeded in eradicating it.

*Figure 138. Population using improved, shared or unimproved sanitation technologies or practising open defecation, Thailand, 1990–2010*

About 18 million “new” users of improved sanitation facilities gained access from 1990 to 2010. The numbers of unserved dropped to one third of the 1990 value.
Where are the unserved?

The huge disparity between people unserved in urban and rural areas in 1990 was reduced to a small disparity in 2010. If the coverage trend continues, the rural areas will experience universal coverage by 2015.

Source: Coverage statistics from WHO/UNICEF (2012)

Achieving the MDG

The MDG target for sanitation has been achieved in Thailand. The projections indicate that Thailand will be very close to universal coverage by 2015.


The additional 18 million people that gained access to improved sanitation from 1990 to 2010 ensured the achievement of the MDG sanitation target much earlier than the target date. According to the current trend, an additional 3.5 million will be served by 2015, which nearly will ensure universal coverage.

9.3 Hygiene

Crucial issues for hygiene development

- Thailand counts on a comprehensive strategy and plan, which has full sector and Government support and is being widely implemented.
- National programmes in Thailand include events and information, education and communication materials of hand-washing, correct use of a public toilet, etc. There is also an annual campaign: Big Toilet Cleaning Days (1–7 April) for public toilets.
- There are memoranda of understanding between the Department of Health and stakeholders to improve their public toilets.
- Three key issues are indicated by the Government on hygiene:
  - Issue 1: Correct hand washing.
  - Issue 2: Improve public toilets to meet national standards.
  - Issue 3: Correct use of a public toilet.

Status of sanitation and hygiene in schools

Proportion of public primary and secondary schools with adequate sanitation facilities (%): about 70% (Ministry of Education, 2011). However, the toilets of public schools that meet the national standards are 53% of the total numbers of toilets.

Status of sanitation and hygiene in health-care facilities

Proportion of public hospitals and health-care centres with adequate sanitation facilities: 100% (Bureau of Environmental Health, Department of Health, 2011). Hospitals with toilets meet national standards are 79%. Health-care centres with toilets that meet national standards are 71% of the total.

9.4 Sector issues

Main constraints for sanitation development

- A limited budget to conduct social mobilization and public communication on poor public toilet maintenance.
- Lack of an adequate budget for local administrative organizations.
- Lack of recognition of the importance of night soil management.

Monitoring sanitation

- There is a sound monitoring system in Thailand but it is not well integrated into review and planning.

Major initiatives, plans or programmes

Title: Thai Toilet Development Project

Objectives and Goals

- A total of 90% of the public toilets are hygienic, accessible and are according to national standards.
- Development of good behaviour among the users of public toilets.
- Fully 60% of the local administrative authorities are to develop good management of night soil.

Achieving the project objectives in a sustainable manner requires the development of the following strategies:

- Creating a participation strategy.
- Public communications strategy.
- Social measures and law enforcement strategy.
- Knowledge and learning strategy.

Private sector participation

Actions carried out in Thailand to stimulate private sector participation in sanitation issues:

- Meetings with partners and alliance members in both public and private sectors on master plan formulation for public toilet development in Thailand.
- Signing a memorandum of understanding (MOU) on cooperation among partners and alliance members in both public and private sectors.
- Meeting on monitoring progress on cooperation efforts with agencies that have signed the MOU.
- Appointment of toilet ambassadors.
- Support for the establishment of the “Happy Toilets Clubs”.

Promotion of sanitation

- It is crucial to count on the active participation of villagers. Recognizing that the implementation of sanitation programmes depends largely on people’s participation, key issues are to raise people’s involvement, their understanding, the sharing of ideas and ownership.
- Sanitation and health promotion are included in both the National Environmental Plan 1 (2008–2011) and Plan 2 (2012–2015).

The national Government encourages local governments to pay the necessary attention to

Table 25. Institutional framework for sanitation in the Thailand

<table>
<thead>
<tr>
<th>Types of institutions responsible for the different aspects of water supply and sanitation</th>
<th>Place the name of the water and sanitation agency in the cells below</th>
<th>Development of policies and strategies</th>
<th>Regulation</th>
<th>Construction of infrastructure</th>
<th>Operation and maintenance</th>
<th>Financing</th>
<th>Tariff setting</th>
<th>Cost-recovery</th>
<th>Etc… (write other types of functions if applicable)</th>
</tr>
</thead>
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<tr>
<td>Main national Government institutions</td>
<td>Department of Health, Ministry of Public Health</td>
<td>1 1 3 3 3 2 3</td>
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<tr>
<td></td>
<td>Department of water Resources, Ministry of Natural Resources and Environment</td>
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<td></td>
<td>Department of groundwater Resources, Ministry of Natural Resources and Environment</td>
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<tr>
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<td>Provincial Waterworks Authority (PWA)</td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td></td>
<td>Metropolitan Waterwork Authority (MWA)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Municipal institutions</td>
<td>For only their own responsible area</td>
<td>1 1 1 1 1 1 1</td>
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<td></td>
<td></td>
<td></td>
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<tr>
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<td>no no unknown unknown unknown no unknown</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Responsibilities: 1 if leading agency; 2 if the agency participates but not as main agency; 3 if the agency is not involved in the function

sanitation and to achieve national sanitation programme targets through the following:

- Seminars on night soil management for provincial administration organizations, municipalities and provincial public health offices across the country.
- Training on sanitation service and development.
- Study tours.
- Creation of knowledge management forums among public and private agencies concerned.
- Legal measures: Drafting a ministerial regulation on night soil collection, transport, disposal and treatment.

**Human resources**

- There is a great need for building the capacities of staff dealing with sanitation at all levels.
- There is a need for systematic capacity-building for staff and villagers, e.g. voluntary villagers should be trained to be sanitary craftsmen in order to implement sanitation activities and coach other villagers.

**Finance**

There is no consolidated information on national expenditures on sanitation in Thailand.

**Institutional framework for sanitation**

- There is a need for an explicit, strong, extended national policy on sanitation.

The table below indicates the main actors in the sanitation sector and respective functions accordingly.

### The most crucial issues for sanitation development

#### Successful experiences

**Description: Factors leading to success**

1. **National policy**

   Explicit, strong, extended national policy. The national target of the sanitation programme clearly was stated in the National Economic and Social Development Plans (1961–1999). National policies were implemented to urge public agencies at all levels to implement the programme continually until the goal was achieved.

2. **Capacity-building**

   Systematic capacity-building for health personnel and the people. Health workers, who later became subdistrict health personnel, were trained throughout the country to implement the sanitation programme and serve as supporters for villagers as well as village committees and subdistrict councils so that they would be aware of the programme implementation, programme planning and setting up and managing village revolving funds.

   The capacity of the people also was enhanced so that they could serve as volunteers or village sanitary craftsmen who played a key role in expanding the programme efficiently to all rural households.

   Besides, the people needed to be informed so that they could realize that it was necessary to have a latrine and a safe water supply for domestic consumption. This effort could be carried out through health personnel and health volunteers and mobile health education teams, especially for remote villages, in order to promote cooperation from the people. Moreover, the Ministry of Interior also helps...
3. Strong people’s participation

We were aware that we needed people’s participation in the implementation of the sanitation programme. To establish a “health development village”, the people had to be involved in creating a good understanding as well as planning, implementing and owning the programme. This was achieved through the collaboration of the village committee, people’s representatives and health personnel.

4. Efficacy of budget management

The allocation of the budget for sanitation development during the period 1990–1999 was only 0.01% of the total budget. The Government budget was inadequate for distribution to all of the people so joint funding was initiated with the people’s support and ownership. The Government supported the establishment of sanitation funds for demonstration purposes from which the villagers could take a loan and repay later with cash or labour that would replenish the village revolving fund for use by other villagers.

5. Development of appropriate technology.

The Ministry of Public Health established regional sanitation centres across the country to support the development of appropriate technology, using locally available materials for latrine construction. So the construction cost was not a problem for the people. In addition to conducting research studies and appropriate technology development, the regional sanitation centres also were involved in training health personnel and the people who would further implement the programme.

6. Multisectoral collaboration.

The Ministry of Public Health collaborated with the Ministry of Agriculture and Cooperatives, the Ministry of Education and the Ministry of Interior, each with a clear responsibility. The Ministry of Public Health was in charge of the indicators related to sanitation and coordinated with the private sector to play a role in the sanitation development programme for the first time, i.e. the people could buy low-priced quality latrine bowls nationwide.

7. Systematic and efficient monitoring and evaluation system.

It is generally necessary to implement the programme in a continual and efficient manner. Thailand had an agency providing technical sanitation support and supervision to health personnel in all provinces. Reports prepared and sent from the village, district and provincial levels up to the national level were used for following up on the progress of the programme. The reports also were used for programme management purposes and providing proper incentives to health personnel with outstanding performance to boost their morale. For example, an award was given to the provincial governor whose province could achieve 100% latrine coverage; for operational-level officials, fellowships were provided for further study or study tours abroad.

9.5 Improving cooperation within the TWG WSH

Workshops and study tours involving the countries of the Thematic Working Group on Water, Sanitation and Hygiene.
Acknowledgements

The following persons provided the sector information included in this analysis:

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Department of Health, Ministry of Public Health

Mrs Neeranuch Arphacharus
Bureau of Environmental Health
Department of Health, Ministry of Public Health
10 Viet Nam

10.1 Population, health and development

**Population**

**Figure 14.2.** Population in Viet Nam, urban, rural and total, 1990–2015

The urban population in Viet Nam practically doubled from 1990 to 2010. However, the rural population is still much larger than the urban population. For each 10 people in Viet Nam, seven are inhabitants of rural areas.

Source: Country population from UNPD (2010)

**GDP per capita**

**Figure 14.3.** GDP per capita in Viet Nam, 1990–2010

The GDP per capita in Viet Nam has been increasing at an annual rate of 13% since 1990.

Source: World Bank (2011)
**Health**

**Figure 144. Life expectancy at birth in Viet Nam, 1990, 2000 and 2009**

Following an impressive increase in life expectancy during the 1990s, Viet Nam experienced a modest increase during the 2000s.

Source: WHO

**Figure 145. Infant mortality rate (probability of dying between birth and 1 year old (per 1000 live births)**

The infant mortality rate in Viet Nam was reduced to 61% of the 1990 value. The reduction from 2000 to 2009 was less impressive but also quite meaningful.

Source: WHO

**Figure 146. Under-5 mortality rate (probability of dying by 5 years old) (per 1000 live births)**

Source: WHO

**Table 26. Annual morbidity and mortality due to diarrhoeal diseases, Viet Nam, 2004**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases of acute diarrhoeal diseases</td>
<td>31,982,271</td>
</tr>
<tr>
<td>Number of deaths due to diarrhoeal diseases</td>
<td>5,611</td>
</tr>
<tr>
<td>Incidence rate of diarrhoeal diseases (per 1000 population)</td>
<td>385</td>
</tr>
<tr>
<td>Deaths rate of diarrhoeal diseases (per 100,000 population)</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: WHO
**Water resources**

*Figure 147. Distribution of causes of death in Viet Nam among under-5 children (%) (2008)*

![Diagram showing causes of death among under-5 children in Viet Nam.](image)

Source: WHO

*Figure 148. Proportion of annual freshwater withdrawals, Viet Nam, 2000*

![Diagram showing the proportion of annual freshwater withdrawals.](image)

Source: World Bank (2011)

<table>
<thead>
<tr>
<th>Table 27. Freshwater withdrawals, Viet Nam, 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual freshwater withdrawals (% of internal resources)</td>
</tr>
<tr>
<td>Annual freshwater withdrawals, total (billion cubic metres)</td>
</tr>
</tbody>
</table>

Source: World Bank (2011)
10.2 Sanitation coverage

Current and past coverage

**Figure 149.** Proportion of the population in Viet Nam using improved sanitation, total, urban and rural areas, 1990, 2010

The progress of sanitation coverage in Viet Nam has been impressive. Viet Nam more than doubled both its rural and urban populations using improved sanitation facilities. The urban/rural disparity, which was huge in 1990, has been reduced enormously. Despite such good progress one of four people still does not have access to an improved sanitation facility.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 150.** Proportion of the population using an improved, shared or other unimproved sanitation facility or practising open defecation, Viet Nam, 1990, 2010

A most impressive feature of sanitation development in Viet Nam over the last 20 years has been the huge reduction by 10 times the proportion of the population practising open defecation.

Source: Coverage statistics from WHO/UNICEF (2012)

**Figure 151.** Population using improved, shared or unimproved sanitation technologies or practising open defecation, Viet Nam, 1990–2010

With an increase of more than 42 million people using improved sanitation facilities from 1990 to 2010, Viet Nam experienced major progress in reducing the numbers of unserved from more than 42 million to half of this value. Such progress was achieved regardless of the population growth of 20.8 million people during the same period.

Source: Coverage statistics from WHO/UNICEF (2012)
Where are the unserved?

Historically, most of the unserved are in rural Viet Nam. Despite major progress over the last 20 years, the numbers of unserved in rural areas in Viet Nam is still exceedingly high.

Source: Coverage statistics from WHO/UNICEF (2012)

Achieving the MDG

Viet Nam has achieved the MDG sanitation target. If the current trend continues, the MDG sanitation target will be exceeded by 16 percentage points by 2015.


Following the current trend, Viet Nam will provide access to an additional 12.3 million people by 2015.

10.3 Hygiene

Crucial issues for hygiene development

- Viet Nam counts on a comprehensive strategy and plan that has full sector and Government support and is being widely implemented.
- There is a need to enhance communication for improved hygiene behaviour.

Status of sanitation and hygiene in schools

- Proportion of public schools with adequate sanitation facilities: 81%.
- Most schools have standard latrines but they are insufficient and are not operated or maintained properly. Many of them need rehabilitation.

Status of sanitation in health-care establishments

- Communal health clinics with clean water and hygienic sanitation facilities: 83%.
- Public hospitals with clean water and hygienic sanitation facilities: 100%.

10.4 Sector issues

Main constraints for sanitation development

- Lack of financial resources.
- Local governments do not give the same attention to sanitation as they do to clean water.
- Lack of good communication for hygiene behaviour improvement.
- Poor ability and willingness to pay for sanitation services.
- Lack of human resources.
- Financial resources are insufficient. For example, there is no funding for health staff at the grassroots levels or to finance sanitation facilities for the poor.

Monitoring sanitation

There is a sound monitoring system in place in Viet Nam but it is not well integrated into review and planning. This marks a change from the previous template (2009) when it was indicated that monitoring was not well coordinated in Viet Nam, resulting in conflicting information from different agencies.

Major initiatives, plans or programmes

1. National Target Program for Rural Water Supply and Sanitation

   Period: 2011–2015

   Funding: Government and donors: Danish International Development Agency (DANIDA), AusAID, the Netherlands Directorate-General

*The above figures do not necessarily refer to the same definitions adopted by the JMP.*
of Development Cooperation (DGIS) and the United Kingdom Department for International Development (DFID).

**Target:** By 2015, 90% of rural people will use clean domestic water, 70% of rural households will have a hygienic latrine, 100% schools and communal health clinics will have clean water and hygienic latrines and 80% of rural people will receive information, education and communication on hygiene and sanitation.

This programme focuses on intersectoral cooperation, information, education and communication activities, research, capacity-building and technical assistance and scaling up sanitation models such as the Commune Health Club, CLTS, sanitation marketing, etc. This programme encourages rural households to build a hygienic latrine by themselves. The construction of school and clinic latrines is funded by the Government.

2. National Investment on solid waste treatment

**Target:** 90% of domestic solid waste in urban areas and 70% of domestic waste in rural areas will be collected and treated properly; 100% of health-care solid waste will be collected and treated properly.

**Period:** 2011–2020

This programme focuses on public–private partnership (PPP).

**Private sector participation**

What has been done over the last five years to encourage the private sector to participate in sanitation development?

- Socialization of sanitation development. Government issued Decision No. 131/2009/QD-TTg of preferential policies, investment promotion and management and exploitation of the rural water supply in order to attract the private sector to participate in rural water supply and sanitation development.
- Sanitation marketing. This links four segments of society: farmers, scientists, manufacturers and the Government.

**Promotion of sanitation**

- Promotion of sanitation and hygiene, especially to encourage local governments to pay necessary attention to sanitation, is conducted as follows:
  - Guiding and disseminating legal document and standards and technical guidelines for drinking-water and rural sanitation.
  - Information, education and communication on sanitation strategy and implementation.
  - Conducting a training course on sanitation for local staff.
  - Set up a networking system at the grassroots level.
  - Provide financial support to local governments.
  - Intersectoral cooperation and coordination.

**Human resources**

- Although both the central and local governments’ staffs are well trained, they are insufficient with regard to sanitation functions at different institutional levels.
- The private sector does not count on properly trained staff.

**Finance**

- A total of US$ 593 million was spent on rural sanitation over the last five years. There is no consolidated information on urban sanitation expenditures.
The planned budget of NTP2 is insufficient to achieve its targets, especially sanitation targets.

**Institutional framework for sanitation**

- The responsibility for sanitation resides in the relevant ministry or ministries, arrangements are clear and accepted and a cross-departmental coordination mechanism exists and functions well.
- Despite the above, there is a need for improving organization, enhancing effectiveness of state management and creating the conditions for human resource development.

The table below indicates the main actors in the sanitation sector and respective functions accordingly:

**Table 26. Institutional framework for sanitation in the Viet Nam**

<table>
<thead>
<tr>
<th>Types of institutions responsible for the different aspects of water supply and sanitation</th>
<th>Place the name of the water and sanitation agency in the cells below</th>
<th>Development of policies and strategies</th>
<th>Regulation</th>
<th>Construction of infrastructure</th>
<th>Operation and maintenance</th>
<th>Financing</th>
<th>Tariff setting</th>
<th>Cost-recovery</th>
<th>Etc... (write other types of functions if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main national Government institutions</td>
<td>MARD</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Local government institutions (regional, provincial, districts)</td>
<td>Department of Health</td>
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<td>2</td>
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<td>1</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>Preventive Health Centre</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>Municipal institutions</td>
<td>Communal Health Clinic</td>
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<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
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<td>People' Committee</td>
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<td>3</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Other (indicate other types of institutions in the cells below)</td>
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</tr>
</tbody>
</table>

Successful experiences

The following is a set of complementary successful experiences:

- Good intersectoral coordination at the central level, especially under the direction of the ministers of the Ministry of Health and Ministry of Health and Rural Development.
- Legal documents were issued to support sanitation.
- Fruitful support from international donors.
- Indicators of clean water and hygienic latrines were prepared by the Ministry of Health and institutionalized.

Key lessons learnt:

Information, education and communication for behaviour change as well as a demonstration of hygienic latrine models encouraged people to build latrines by themselves.

10.5 Action undertaken following the Beppu Declaration

Not known

10.6 Recommendations

Policies and strategies

- National Action Plan for Sanitation may be issued and led by the Ministry of Health.
- Independent strategy and programme for rural sanitation with sufficient financial allocation.
- The climate change issue must be raised in sanitation programmes.

Legal framework

- Translating MDGs and national MDGs on sanitation targets into the country and local development plans.
- The institutional instruments for improving the water supply and sanitation in rural areas may be prepared and approved by the prime minister.

Institutional framework

- The Ministry of Health may want to lead a national sanitation strategy and programme. It may want to set up a standing office for sanitation at the Health Environment Management Agency (VIHEMA) with the appropriate allocation of resources.

Financing

- There is a need for sufficient financial allocation from the Government.
- External agencies may want to increase their levels of funding for sanitation development.
- Communities may be stimulated to fund their own sanitation facilities.
- Coordinate with the Viet Nam Bank for Social Policies for loan assistance in building latrines in rural areas, especially for the poor.
- Private sectors and enterprises may want to participate more actively in sanitation development.

Human resources

- More financial resources as well as training facilities may be needed.
- More international cooperation for information exchange.
- Intensify training for local levels.
Public schools and health-care establishments

- There is a need for budget allocation to build and upgrade latrines and hand-washing facilities.
- Strengthen operation and maintenance of sanitation facilities in public hospitals and health-care establishments.
- Improving waste management, especially in health-care establishments.

Monitoring and evaluation

- Better coordination among involved agencies.
- A national database on drinking-water and sanitation that has been initiated may be maintained and improved based on unifying the monitoring system and criteria from various agencies.
- Sufficient regular budget for sector monitoring.
- The water and sanitation sector assessment process may be further supported.
- There is a need for a unified database on sanitation (and water).

Improving the cooperation within the TWG WSH

- A leading office and a network of participating countries may be established for the sanitation assessment process.
- Annual review meetings of TWG may be organized.
- Study tours and sector workshops may be organized to share experiences on sanitation achievements among Member Countries.

Acknowledgements

The following persons provided the sector information included in this analysis:

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## Annex 1

### SANITATION COVERAGE IN EAST ASIA IN 1990 AND 2010

<table>
<thead>
<tr>
<th>Country</th>
<th>Urban population (thousands)</th>
<th>Rural population (thousands)</th>
<th>Total sanitation coverage (%)</th>
<th>Urban sanitation coverage (%)</th>
<th>Rural sanitation coverage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunei Darussalam</td>
<td>169</td>
<td>204</td>
<td>88</td>
<td>99</td>
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<tr>
<td>Cambodia</td>
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<td>8331</td>
<td>11295</td>
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<td>China</td>
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<td>629824</td>
<td>842383</td>
<td>711511</td>
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<td>14660</td>
<td>8383</td>
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<td>Japan</td>
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<td>Lao People's Democratic Republic</td>
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<td>3545</td>
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1995 values
We, the heads of national delegations attending the First East Asia Ministerial Conference on Sanitation and Hygiene (EASEN 2007) held in the city of Beppu on 30th of November and 1st of December in this year 2007 which precedes the UN International Year of Sanitation 2008:

i. Recognizing that sustainable access to sanitation is one of the targets stated in the Millennium Declaration and that many governments have set their own targets for both sanitation and hygiene

ii. And further recognizing that sanitation, in combination with the means of practicing hygienic behaviours, is fundamental to the achievement of many other Millennium Development Goals which our governments have committed to, defining sanitation as the safe collection, transport, treatment or re-use of human waste along with a healthy living environment including the management of domestic solid waste and sullage, and defining hygiene as clean and healthy behaviours

iii. And further recognizing that our governments are signatories to the UN General Assembly Resolution number A/RES61/192 which calls for the implementation of the Hashimoto Action Plan including the formation of regional fora to address inter alia the challenges of sanitation and hygiene

iv. And further recognizing that the governments of East Asian countries approved the Charter of the Regional Forum on Environment and Health in August 2007 in Bangkok, Thailand and the work plans of six regional Thematic Working Groups, including the one on water supply, hygiene and sanitation

v. Acknowledging that access to basic sanitation and safe water supply and the practice of hygienic behaviours are all necessary for the health and well being of the population and are necessary for people to live in dignity and safety

vi. Noting that the burden of disease and death and associated economic costs in East Asia which arise from the lack of such access is heavy and is not matched by commensurate investment in sanitation, and hygiene promotion which would, in addition to direct health benefits, have significant economic benefits

vii. Understanding that national and local governments have a crucial role to play in setting policy and steering public investments to promote a rapid up-scaling of progress in access to sanitation and the means of practicing hygienic behaviours while recognising the equally important role of other actors including the private sector and civil society

viii. and further understanding that the role of households and individuals and particularly women and children are crucial in the realization of effective and sustainable programs for sanitation and hygiene improvement
ix. and further understanding that effective programs of sanitation and hygiene promotion require the cooperation and coordination of efforts in many ministries including but not limited to those responsible for health, water resources, education and planning

x. and further understanding that there is a growing scarcity of safe water in the region and a linked and urgent need to protect and conserve sources of clean water from both overuse and pollution

xi. Recognizing the depth and value of our mutual experience and knowledge, the availability of positive examples within our region and our potential to act together to improve access to sanitation and the means of practicing hygienic behaviours

2. Do hereby commit to

i. Take the necessary steps in relevant Ministries of our governments at national and local level to achieve or exceed the MDG target for sanitation in our respective countries and to encourage the private sector to take similar steps as appropriate

ii. Improve the level of investment in sanitation and hygiene promotion in our respective countries while maintaining commensurate investments in domestic water supply

iii. Invest in sanitation and hygiene promotion in ways which specifically benefit the poor and the vulnerable and those with a high incidence of water- and sanitation-related disease as well as those who currently have the most limited access to sanitation and the means of practicing hygienic behaviours

iv. Plan investments in ways which promote incremental improvements in all needy areas including in the rural and urban contexts

v. Enable the participation of women, children, poor families, civil society as well as the public and private sectors in the planning and implementation of sanitation and hygiene programs so that they can be scaled to be effective and sustainable

vi. Strive to ensure that access to sanitation facilities and the means of practicing hygienic behaviours are available in all schools and that sanitation and hygiene are a focus of education in schools and that children communicate those messages into the wider community

vii. Provide strong leadership through Ministries and local governments responsible for finance and planning so that budgetary priorities are linked to workable practical action plans with clear lines of responsibility between and amongst the various concerned Ministries and local governments

viii. Strengthen regional cooperation between and amongst our countries to facilitate sharing of knowledge to expedite change

ix. Create a regional platform for cooperation in sanitation and hygiene which would include an East Asia Ministerial Conference on Sanitation and Hygiene to be held in the region
provisionally at two-yearly intervals and would build on existing fora and which would facilitate cooperation among East Asian countries as well as between our region and other regions of the world

x. Play an active role in all the relevant activities and aspects of the International Year of Sanitation.

3. We further call on

i. Development banks, donors and other governments to support our efforts and provide financial and technical assistance for sanitation and hygiene promotion in East Asia at a level that is commensurate with the challenges ahead.

ii. The Asia Pacific Water Forum (APWF), to recognize EASAN 2007 and its follow-up as an integral part of the APWF process, to recognize this Declaration and to provide practical support in operationalising these commitments.

iii. The G8 and other intergovernmental groups to recognize the importance of sanitation, hygiene and water for global health, for their close interaction with climate change and for the economic and social benefits that they bring.

iv. Other regional fora including the Regional Forum on Environment and Health and the South East Asia Water Forum to also recognize and support this Declaration and assist in converting these commitments into actions.

v. Regional and national actors to make use of the opportunities provided by the UN International Year of Sanitation 2008 to maintain and improve efforts in sanitation and hygiene.

vi. Relevant Ministries to take strong leadership and to create the necessary environment for effective national sanitation and hygiene programs.

And in recognition of this we make this declaration on the 1st of December, 2007.

Haji Brahim Bin Haji Ismail
Permanent Secretary Administration and Finance, Brunei Darussalam

Lu Lay Sreng
Deputy Prime Minister and Minister of Rural Development, Cambodia

Bai Huqun
Vice Director General, Ministry of Health, P.R. China

Wan Alkadri
Director for Environmental Health, Ministry of Health, Indonesia

Ponmek Dalaloy
Minister, Ministry of Health, Lao PDR
Lim Keng Yaik
Minister, Ministry of Energy, Water and Communications, Malaysia

Shagdar Sonomdagva
Adviser to the Minister, Ministry of Construction and Urban Development, Mongolia

San Shway Wynn
Deputy Director General, Department of Health, Myanmar

Belma Cabilao
Member, House of Representatives, Philippines

Wah Yuen Long
Director, Public Utilities Board, Singapore

Narongsakdi Aungkasuvapala
Director General, Department of Health, Thailand

Madalena Soares
Vice Minister, Ministry of Health, Timor Leste

Nguyen Bich Dat
Vice Minister, Ministry of Planning and Investment, Viet Nam

Observers:

UNICEF
UNSGAB
Water and Sanitation Program, the World Bank
World Health Organization
Annex 3

SECOND EAST ASIA MINISTERIAL CONFERENCE ON SANITATION AND HYGIENE (EASAN2)
MANILA DECLARATION
Manila, Philippines, 27–29 January 2010

Whereas, 800 million people in East Asia still lack access to improved sanitation facilities, resulting in the poor health and quality of life of men, women and children and imposing heavy economic burdens on countries in the region;

Whereas, the latest statistics for the region indicate that the Millennium Development Goal target for sanitation might be missed by 6% if the development trend of the past years persists to 2015;

Whereas, this reality highlights the urgent need to undertake the required action to reverse this trend and to attain the Millennium Development Goal target to halve the proportion of people without access to improved sanitation by 2015;

Whereas, our governments are signatories to United Nations General Assembly resolution A/RES/61/192 of 2007, by which all States and other stakeholders are encouraged to promote action on sanitation at all levels, taking into account the recommendations of the Hashimoto Action Plan;

Whereas, our governments approved the Charter of the Regional Forum on Environment and Health and the workplans of the six regional Thematic Working Groups, including one on water supply, hygiene and sanitation, in 2007;

Whereas, convening the first East Asia Ministerial Conference on Sanitation and Hygiene (EASAN-1) in Beppu, Japan, 30 November and 1 December 2007, our countries came together and adopted the Beppu Declaration, whereby ministries committed to take the necessary steps to achieve or exceed the Millennium Development Goal target for sanitation by improving the level of investment in the sector and enabling the participation of different stakeholders, including women, children, poor families and civil society;

Whereas, the Beppu Declaration also called for stronger regional cooperation between and among the countries of the region to facilitate the sharing of best practices and knowledge to effect meaningful change;

Whereas, in January 2010 there was a Follow-up Conference of the International Year of Sanitation held in Tokyo, Japan, which proposed the creation of an International Half Decade for Sustainable Sanitation (2010–2015) as a vehicle to maintain the momentum for initiatives taken and as a catalyst for change;

Now, therefore, we, the representatives of government agencies in charge of sanitation and health in 13 countries who have come together to attend the Second East Asia Ministerial Conference on Sanitation and Hygiene (EASAN-2) held in the City of Manila, 27–29 January 2010, hereby:
Reiterate that access to basic sanitation and water supply, including drinking-water, and the practice of hygienic behaviours are all necessary for the health and well-being of the population and for people to live in dignity and safety;

Recognize that sanitation and hygiene must be viewed from a systems point of view, from toilets to collection, transport, processing, treatment and final use or disposal, including hygienic practices, considering that an incomplete system would render great risks to the environment and subsequently put public health at risk;

Believe that improving water supply, improving sanitation, handwashing, household water treatment and safe storage are integral parts of human development and that heightened public awareness, in the context of local conditions, on handwashing and hygiene is effective in reducing the transmission of communicable diseases;

Acknowledge that human excreta, if properly managed, can be a resource that can be harnessed as organic fertilizer to promote sustainable agriculture, enhancing the quality of soils while lessening the use of inorganic fertilizers;

Acknowledge that wastewater, when adequately treated, can be reused for enhanced development of agriculture and other purposes;

Believe that emergency sanitation and hygiene needs special focus and attention, given the vulnerability of the East Asia region to more extreme weather conditions and other impacts of climate change, and that the inputs of experts, researchers, inventors and business enterprises are needed to find dynamic solutions to this extreme challenge, so that efforts for increased sanitation coverage are not compromised;

Realize that strong political will at all levels is needed to achieve sustainable sanitation and that a regional initiative can constructively focus national attention on this issue.

Accordingly, we reiterate the commitments expressed in the Beppu Declaration and believe that we can achieve sustainable sanitation if we work together.

In addition, we commit to:

1. Meet our national Millennium Development Goal-based sanitation targets by making sustainable sanitation a part of our national development strategy, committing to specific time-bound targets, and formulating national sustainable sanitation road maps with the appropriate allocation of human, financial and logistical resources for their implementation;

2. Adopt sustainable sanitation and hygiene policies that protect public health and the environment, with specific goals and financial targets, and promote the formulation of national sustainable sanitation road maps that accelerate the attainment of the Millennium Develop Goal targets on water and sanitation, matched to our economic, social and environmental situations, and that guide us towards good governance, institution building, capacity development, infrastructure and investment strategies, financing and strategic alliance building to make our sanitation systems work for us;
(3) Build regional and multistakeholder sustainable sanitation partnerships among governments, different levels of government, civil society, the private sector, academia, nongovernmental organizations and others to raise awareness, mobilize resources and exchange knowledge on sanitation and hygiene development in each of the following areas: promotion of hygienic behaviours, improvement of household sanitary arrangements, and sewage collection, treatment and safe disposal;

(4) Facilitate regional collaboration and support to assist countries in our region to fasttrack the achievement of the Millennium Development Goal sanitation targets by:

(5) Holding regional and subnational exchanges, such as country-to-country or city-to-city cross-trainings, sharing of sanitation experts and study tours;

(6) Conducting regional studies and researches on good practices in hygiene and sanitation, including excreta management;

(7) Promoting the sanitation agenda among other regional forums and networks to strengthen regional linkages and cooperation;

(8) Ensure the final treatment for septage and septic tank effluents before wastewater is released to the environment to protect public health and the environment;

(9) Provide capacity support to subnational and local governments to enable them to effectively and efficiently implement sanitation and hygiene programmes and projects;

(10) Promote the co-benefits of sustainable sanitation and sustainable agriculture as we address the pressing needs for food security and adequate water supply;

(11) Establish a national multisectoral committee to help concerned ministries formulate and implement sanitation and hygiene action plans with quantifiable targets and time frames;

(12) Continue to convene regularly through EASAN as the regional platform for cooperation in sanitation and hygiene among East Asian countries and between our region and other regions in the world, with a commitment to hold EASAN-3 in 2012 to assess our country and regional progress against our commitments with regard to the Millennium Development Goals;

(13) Request the Regional Forum on Environment and Health to mandate the Thematic Working Group on Water, Hygiene and Sanitation to act as the regional platform for facilitating cooperation in East Asian countries towards the improvement of sanitation and hygiene, to collaborate with the EASAN-3 host country in the planning and organization of EASAN-3, and to support the planning and implementation of follow-up action plans;

(14) Promote the implementation of national sanitation, hygiene and water sector assessment programmes as a means to generate crucial information for decision- and policy-making in our countries;
(15) Call on countries that are developed in sanitation and hygiene to support less-developed countries in improving their sanitation and hygiene status;

(16) Call on other regional and global forums and organizations to support the statements, principles and commitments of EASAN-2 and our efforts in pursuit of this Declaration;

(17) Express support for the creation of the International Half Decade for Sustainable Sanitation, 2010–2015.

And in recognition of this, we make this declaration on 28 January 2010.

Mr Haji Suhami bin Haji Gafar, Acting Director-General, Public Works Department, Brunei

Mr Sao Chivoan, Secretary of State, Ministry of Rural Development, Cambodia

Mr Bai Huqun, Deputy Director-General, Ministry of Health, China

Mr Budi Hidayat, Director of Housing and Planning, Bappenas, Indonesia

Mr Eksavang Vongvichit, Vice-Minister, Ministry of Health, Lao People’s Democratic Republic

Mr Haji Japar bin Abu, Senior Undersecretary, Sewerage Services Department, Ministry of Energy and Green Technology, Malaysia

Mr Ganbold Davaadorj, Vice-Mayor, Ulaanbaatar, Mongolia

Mr Paing Soe, Deputy Minister, Ministry of Health, Myanmar

Dr Mario C. Villaverde, Undersecretary, Department of Health, Philippines

Mr Satish Appoo, Director of Environmental Health, Department of Environment and Natural Resources, Singapore

Mr Somyos Deerasamee, Director-General, Ministry of Public Health, Thailand

Ms Madalena Fernandes Melo Hanjam Costa Soares, Vice-Minister, Ministry of Health, Timor-Leste

Mr Cao Lai Quang, Vice-Minister, Ministry of Health, Viet Nam
## Annex 4

### REGIONAL ACTION FOR SANITATION AND HYGIENE IN EAST ASIA

<table>
<thead>
<tr>
<th>Action agenda</th>
<th>Proposed activities</th>
<th>Target date / frequency</th>
<th>Responsible parties (national &amp; regional)</th>
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</thead>
<tbody>
<tr>
<td>Institutional arrangements and policy</td>
<td></td>
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<tr>
<td>1. Countries to develop SMART (simple, manageable, achievable, realistic and timely) sanitation road maps based on national sector assessments</td>
<td>Disseminate information on sector assessment Prepare a guide on how to prepare the road map; countries can decide whether to adopt it or modify it Promote mechanisms for exchange of information on successful experiences</td>
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<tr>
<td>2. Generate donor or private sector support for regional and country initiatives</td>
<td>Encourage development of action plans at country level TWG-WHS member from each country to disseminate the outputs of EASAN-2, pick up relevant issues and develop action plan Consider the Manila Declaration in the national action plan Brief national stakeholders on the outputs of EASAN-2 through a wide dissemination of the outputs</td>
<td></td>
<td>Refer to Finance Working Group</td>
</tr>
<tr>
<td>3. Develop a post-EASAN-2 action plan at country level</td>
<td>Develop a methodology to derive national or subnational coverage estimates compatible with the JMP methodology Encourage the use of information generated for the regional monitoring system for their own analysis of the sector Have national representation in developing the regional monitoring system Generate information required regionally using existing or improved national information systems Harmonize different statistics on sanitation coverage</td>
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<tr>
<td>4. Carry out a sanitation education campaign</td>
<td>Organize a sanitation week coinciding with World Toilet Day or Hand Washing Day Implement national sanitation week Identify national sanitation champions Develop and implement a national sanitation communication plan</td>
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<tr>
<td>5. Develop a regional monitoring system consistent with JMP methodology</td>
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<tr>
<td>Financing and resource mobilization</td>
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<tr>
<td>1. Develop clear financing policies for sanitation</td>
<td>Advocate inclusion of a clear financing framework, including the allocation of public resources such as grants and subsidies, in the preparation of the sanitation road map</td>
<td>Within 6 months</td>
<td>Individual countries</td>
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<tr>
<td></td>
<td>Prepare a compendium of financing best practices and models at strategic level (for the framework) and local level (specific-country experiences such as Malaysia’s PAAB, Viet Nam’s OBA, Philippines’ PWRF)</td>
<td>6 months to come up with the framework Compendium to be reported in EASAN-3</td>
<td>TWG-WHS to come up with the framework Malaysia to take the lead in putting together the compendium Countries to contribute to the best practices report</td>
</tr>
<tr>
<td>2. Make available financial resources for construction, operation and promotion of sanitation facilities</td>
<td>Prepare a compendium of donor assistance programmes and regional programmes that can be tapped for technical assistance and capital investments Establish a networking mechanism among donor agencies and national governments</td>
<td>6 months</td>
<td>TWG-WHS</td>
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## Regional Action for Sanitation and Hygiene in East Asia

<table>
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<tr>
<th>Action agenda</th>
<th>Proposed activities</th>
<th>Target date / frequency</th>
<th>Responsible parties (national &amp; regional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identify appropriate financing schemes for specific technologies, e.g. microfinance schemes for the poor</td>
<td>3–6 months: get commitment from TWG WSH to undertake the survey</td>
<td>TWG-WHS</td>
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<td>2. Conduct an assessment of demand for sustainable sanitation technologies to promote private sector investment</td>
<td>Refer to Institutional Working Group</td>
<td></td>
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<tr>
<td>3. Improve the utilization of available financial resources</td>
<td>Improve coordination among development partners and government agencies</td>
<td>To be done at the national level: link with Institutional Working Group; Indonesia to share experience</td>
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<td></td>
<td>Tie the use of funds to performance-based indicators</td>
<td>Refer to Institutional Working Group</td>
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<tr>
<td></td>
<td>Educate beneficiaries and recipients (local governments, community, individual households) on the importance of the sector</td>
<td>Refer to Institutional Working Group</td>
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</table>

### Knowledge products and technologies

| 1. Develop and utilize innovative toolkits | Carry out inventory of existing toolkits | |
|                                           | Prioritize the most useful toolkits and translate them into local languages | |
|                                           | Determine the need to develop new toolkits | |
| 2. Conduct regional forums | Year 1: EASAN for high-level institutional and policy action | |
|                                           | Year 2: forum for technical-level action | |
| 3. Carry out cross-visits and study tours | Intercountry sharing: Identify countries to be involved in regional conferences (SACOSAN) Request Malaysia to support learning activity on urban sanitation Organize separate regional workshop to tackle sanitation in difficult circumstances | |
| 4. Upgrade technologies and facilities | Conduct regional study on sanitation in difficult circumstances (cold, dry, flooding, etc.) | |
|                                           | Carry out assessment of sanitation technologies (treatment, operation and maintenance) | |
| 5. Develop database and information systems | Harmonize definitions and data analysis methodologies | |
|                                           | Promote sani-shops | |
|                                           | Organize a regional trainers’ workshop on harmonized methodology | |

### Emergency sanitation

| 1. Raise the profile of emergency sanitation | Undertake advocacy campaigns (visual and print media) Integrate in the emergency response package (e.g. disaster risk reduction) Identify champions Organize “lifelines” conferences | Once a year in the major cities | Among local government units at national level |
| 2. Build capacity for sanitation in emergencies | Compile emergency tools Undertake exposure trips and study visits Prioritize disaster preparedness emergency sanitation resources (human, technical and financial) Prepare succession plans | |
| 3. Develop plans, procedures and standards for emergency sanitation | Develop guidelines on emergency sanitation Share resources and experiences among countries (regional response) Ensure that disaster support institutions (local government units, utilities: power, water and communications, etc.) have standard operating procedures and clear roles and responsibilities Conduct inventory of resources | |
Annex 5
IS IT POSSIBLE TO DEVISE A SANITATION LADDER?

As indicated in section 2 of this document, the current approach of the JMP is technology oriented. Certain types of technologies are acceptable (improved) whereas other types of technologies or practices are unacceptable (unimproved). There seems to be a consensus that while the current approach is the only one possible at this stage taking into account the type of information obtained from household surveys, it is also generally claimed that there is a need to expand the information base so other issues can be considered in defining different types of access.

Different ideas have been recently published proposing approaches that might eventually provide a better indication of what is in use in different countries. For example, Kvarnström (2011) propose a seven-rung function-based sanitation ladder where the functions can be broadly divided into health functions and environmental functions. The proposed ladder would represent a move towards a function-based rather than technology-based monitoring of sanitation progress as done currently by the JMP.

Lenton (2005) suggest that the definition of basic sanitation by the Millennium Project implies that technology for basic sanitation is not a context-free system, but rather a situation-determined. Basic sanitation is defined as the lowest-cost technology appropriate for the physical, environmental, and financial resources of both the supply side and the demand side of access. The specific technologies that meet these conditions may differ from place to place: in dispersed, low-income rural areas, the appropriate technology may be a simple pit latrine; in a congested urban slum area with reliable water service, it may be a low-cost sewerage system.

If the concept of improved sanitation is to be expanded to address also the conceptual definition of basic sanitation, then the measurements made by household surveys and other means of obtaining information should be expanded to address not only the technology aspects but also the health, social and environmental aspects as well as the sustainability of the access. Taking the conceptual aspects involved in the definition of basic sanitation, the following issues should be taken into account in devising an expanded sanitation ladder:

Affordability: the capital cost as well as the operation and maintenance costs of the service should be compatible with the family’s revenue.

Safety: the facilities should be hygienic (no faeces on the floor, seat or wall, and flies) and should ensure separation of humans (hands) from excreta.

Privacy and dignity: the sanitation facilities should ensure privacy. This means that the facility should be located in the premises of the user, should have a superstructure ensuring privacy and should not be shared with other households.

Preserves the human environment at home: the facility and its use should not generate pollution or degradation of the household. It should avoid the exposure of people to health risks from such degradation.

Preserves the human environment in the neighborhood: the facility and its use should not produce environmental damage outside the household (e.g. downstream water resources).

Sustainable access: refers to a type of service that is secure, reliable, and available for use
on demand by users on a long-term basis. Sustainability deals also with environmental impact. It refers to the effects on resources within or outside the service area of the technology and the processes required for adequate access (Lenton, 2006).

Combining the technology used for the sanitation facility with the context might provide a workable ladder (see figure below). The sustainability component was omitted from this figure as it would be a consequence of the other factors. Furthermore, in the column “Context” a given level implies that all inferior levels have been achieved.

This ladder is conceptual at this stage. Making it workable would require indicators that will be used as the basis for calculation of the different categories of access. It might be necessary to use indicators that would function as proxies for the above definition. Unfortunately, the most common household surveys do not allow not even the use of proxies to address the above concerns and this might present a huge constraint towards a context approach in addition to the current technology-based one. It is also important to consider that there is a need to reach a feasible balance between what is desirable to measure and what is possible to measure. Cost is definitely an important variable in this exercise.