

Development of drinking water and sanitation facilities in Cambodia since 2000 observed in the Cambodia Socio-Economic Survey (CSES)

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Abstract

The data from the Cambodia Socio-Economic Survey (CSES) provide important information about living conditions in Cambodia and have a wide range of use. Results from CSES are used for monitoring the National Strategic Development Plan (NSDP) and progress towards the Cambodia Millennium Development Goals (CMDG). Drinking water and sanitation also part of CMDG. Furthermore, the data from CSES are used for developing poverty lines and calculating poverty rates.

A lack of improved drinking water and poor sanitation are major problems in Cambodia after the civil war conflict destroyed much of Cambodia's water supply infrastructure and sanitation systems. By 1990, only about 30 percent of rural residents had access to improved drinking water and about 5 percent of rural residents had access to improved sanitation. The efforts of the Royal Government of Cambodia with the support from development partners to address the challenges of unimproved drinking water and unimproved sanitation that affect to the Cambodian population health has been much improved. Investments since the mid-1990s have helped provide cleaner water supplies and improved sanitation for many in Cambodia. In year 2011 about 50 percent of the Cambodian people now gets its water from improved drinking water sources like piped in dwelling or on premises, public tap, tube/piped well or borehole, protected dug well and improved rainwater collection and about 44 percent of Cambodian people using improved sanitation facilities like pour flush/flush connected to sewerage, pour flush/flush connected to septic tank and pit latrine with slab.

Keywords: National Strategy Development Plan; Cambodia Millennium Development Goal; Improved Drinking Water and Improved Sanitation.

1. Introduction

This paper begins with a short description of the Cambodian Socio-Economic Survey (CSES) which is the main instrument used to monitor the development of drinking water and sanitation facilities in Cambodia. After that I will show results that is the main section of this paper. In that section I will provide the definition of improved drinking water and improved sanitation and also provides of a statistical analysis including figures and interpretation of the improvement of drinking water and sanitation from 2004 to 2011 by geographical domain and urbanization degree, observed in the CSES. Finally, in the

conclusion of this research paper I also provide a summary and discussion of the result of improvement of drinking water and sanitation.

2. Cambodian statistics on drinking water and sanitation facilities, national goals, data collection.

The CMDG target for 2015 for improved drinking water is to reach 80 percent of the urban population and 50 percent of the rural population. According to the CSES 2011, 81.3 percent of urban population and 43.2 percent of rural population have access to improved drinking water. Therefore, for urban area it indicates that the CMDG target has been achieved in advance. (MOP (2011) NIS (2013))

The CMDG target for 2015 for improved sanitation is to reach 74 percent of the urban population and 33 percent of the rural population. As the results of the CSES 2011, 87.4 percent of urban population having access to improved sanitation and 33.2 percent of rural population having access to improved sanitation. Therefore, it implies that for both urban and rural area the CMDG target has been meet before 2015.

The CSES is the main source to assess the targets above on improved drinking water and improved sanitation. The CSES is conducted by the National Institute of Statistics (NIS), Ministry of Planning (MOP). The first CSES was conducted in 1993/94. Since 2007 it is an annual survey done by NIS with the technical supports by Statistics Sweden and financial supports by the Swedish International Development Cooperation Agency (Sida). The CSES is a household survey covering many areas relating to poverty and living conditions.

3. Results

3.1. Definition

3.1.1. Improved Drinking Water:

For Cambodia, access to water supply services is defined as the availability of an improved water source. An improved water source is not necessarily safe, but an improved source is more likely to provide safe water. Types of improved water sources are defined as follows:

- Piped water in dwelling or on premises is defined as piped water connected with in-house plumbing to one or more taps, e.g. in the kitchen and bathroom. Sometimes called a house connection. Piped water also connected to a tap outside the house in the yard or plot (on premises).
- A public tap/stand pipe is defined as a public water point from which community members may collect water. A stand pipe may also be known as a public fountain or public tap. A public stand pipe can have one or more taps and are typically made of brick work, masonry or concrete.
- A tube well or borehole is defined as a deep hole that has been driven, bored or drilled with the purposes of reaching ground water supplies. Water is delivered from a tube well or borehole through a pump which may be human, animal, wind, electric, diesel or solar-powered.

- A protected dug well is defined as a dug well that is protected from runoff water through a well lining or casting that is raised above ground level and has a platform that diverts spilled water away from the well and is covered so that bird droppings and animals can not fall down the hole.
- Rainwater collection is also considered as improved water if the rainwater catchments tank is completely closed, have a tap to withdraw and have a capacity of at least 3,000 liters.

3.1.2. Improved Sanitation:

For Cambodia, Improved sanitation facility is the facility that is private-owned by the household and it can effectively separate human excreta from human contact. Types of improved sanitation facility that the urban and rural populations have access to are defined as follows:

- Pour flush/flush toilet connected to sewerage, septic tank or pit is defined as a flush toilet using a cistern or holding tank for flushing water and has a water seal, which is a U-shaped pipe below the seat or squatting pan, that prevents the passage of flies and odors. A pour flush toilet uses a water seal or a pour flush toilet uses water poured by hand for flushing.
- A pit latrine with slap is defined as that the excreta is deposited without flushing directly into a hole in the ground. Pit latrine can be a ventilated improved pit latrine (VIP).

3.2. Statistics on improved drinking water and sanitation 2004-2011

3.2.1 Statistics on improved drinking water 2004-2011

Note: In CSES 2004, 2007 and 2008 the question on source of drinking water had nine categories namely piped in dwelling or on premises, public tap, tube/piped well or borehole, protected dug well, unprotected dug well, pond, river or stream, rainwater, tanker truck vendor or bought water and other source. The question in 2009, 2010 and 2011 had 13 categories with more specific details that can be used for measuring improved and unimproved water source. So, it is not possible to directly compare the source of drinking water between 2004, 2007, 2008 with 2009, 2010 and 2011. The change of definition resulted in a shift upwards of the level in the urban areas but downwards in the rural areas as seen in figure 1 below.

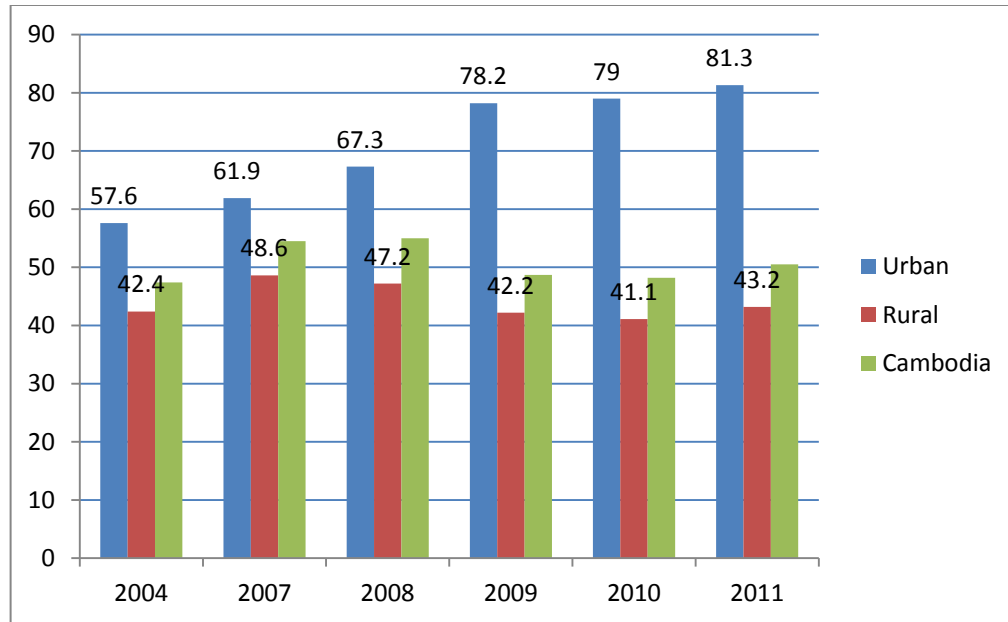


Figure1. Cambodian Households with Improved Drinking Water 2004-2011 by urban/rural (percent)

Figure1 shows that the improved drinking water for urban area has steadily increased from 57.6 percent in 2004 to 81.3 percent in 2011. The increasing trend is visible in both series with difference in definition, the years (2004, 2007 and 2008 and the years 2009, 2010 and 2011). The improved drinking water in the rural area indicated that there was significant improved from 2004 (42.4 %) to 2008 (47.2 %), but the trend in the period 2009 to 2011, for the improved water is less clear, 42.2% in 2009 and 43.2 % in 2011.

3.2.2 Statistics on improved sanitation 2004-2011

Note: In CSES 2004 and 2007, the question on sanitation facilities had nine categories namely the toilet connected to sewerage, septic tank, pit latrine, other without septic tank, public toilet, shared toilet, open land, none and other facility. In the question in 2008, 2009, 2010 and 2011 the household was asked which type of toilet it had within the premises defined into eight categories. If the household did not have any toilet facility in the premises it was asked which type of toilet the household usually used, specified in three categories. All categories are specified in detail and can be used to better capture the concept of improved and unimproved sanitation. So, it is not possible to compare in detail the sanitation facilities between 2004 and 2007 with 2008, 2009, 2010 and 2011.

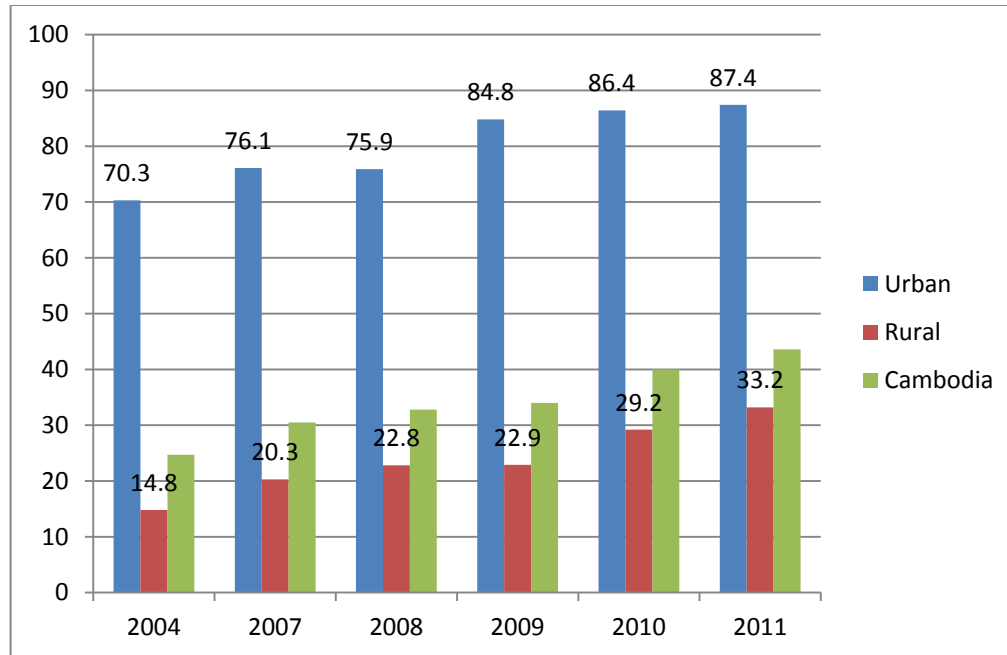


Figure2. Cambodian households with Improved Sanitation 2004-2011 by urban/rural (percent)

Figure 2 shows those households who live in the urban area using improved sanitation in a much higher extent than households who live in the rural area. The difference between urban and rural area is more than double every year from 2004 to 2011. Household living in the urban area using improved sanitation increased from 70.3 percent in 2004 to 87.4 percent in 2011. However, relatively speaking the households living in the rural area using improved sanitation increased more from 14.8 percent in 2004 to 33.2 percent in 2011.

4. Conclusions

Data from the Cambodia Socio-Economic Survey (CSES) is important for monitoring the National Strategic Development Plan (NSDP) and the Cambodia Millennium Development Goals (CMDG). Drinking water and sanitation is also an important part of CMDG. The definition of improved drinking water and sanitation was changed over the time. So, it is not possible to directly compare the statistics year by year from 2004 to 2011. Although, there was different definitions, the figures shows that the percentage of households living in the urban area is much higher than the percentage of households living in the rural area in both improved drinking water and sanitation. The results of CSES 2011 indicating that three (urban improved drinking water, urban and rural improved sanitations) among four CMDG indicators has been achieved CMDG target before 2015. Only one indicator (rural improved drinking water) may be achieved on or behind the CMDG target 2015. Therefore, the government and the development partners need to invest more in the rural area, particularly on drinking water.

5. References

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