

# Regional // Fit for School Program Assessment Study (FIT-PAS) 2009–2014

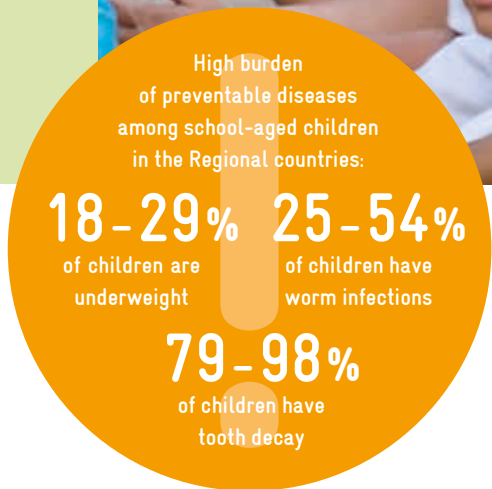
Philippines // Cambodia // Indonesia // Lao PDR



The Fit for School (FIT) program is an integrated water, sanitation and hygiene (WASH) and school health program. It is implemented by the respective Ministries of Education (MoEs) of the Philippines, Cambodia, Indonesia and Lao People's Democratic Republic (Lao PDR), with technical support from the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the Southeast Asian Ministers of Education Organization Regional Center for Educational Innovation and Technology (SEAMEO INNOTECH).

The FIT approach is based on simplicity, scalability, sustainability and systems thinking, which are the cornerstones for transforming schools into healthy learning environments where skills-based hygiene practices are part of the school routines to form long-term healthy habits. Interventions include the strengthening of school-based management (SBM) for implementing daily group handwashing with soap and toothbrushing with fluoride toothpaste, as well as bi-annual school-based deworming according to national guidelines. Schools themselves constructed group washing facilities (WASHaLOTs – prefabricated washing facilities with several water slots used for group handwashing and toothbrushing in schools). The FIT approach originated in the Philippines and has been implemented on a national scale by the Philippine Department of Education (DepEd) as the 'Essential Health Care Programme' (EHCP). The implementation in Cambodia, Indonesia and Lao PDR started in 2012 in 10, 12 and 22 public primary schools, respectively. Currently, the program is being scaled-up to cover more schools in the region.

More information: [www.fitforschool.international](http://www.fitforschool.international)



In the Philippines, a Health Outcome Study (HOS) was conducted from 2009 to 2012 to assess the impact of the program interventions on children's parasitological, nutritional and oral health status. In Cambodia, Indonesia and Lao PDR, a comprehensive Fit for School Program Assessment Study (FIT-PAS) was conducted from 2012 to 2014. The FIT-PAS comprised three study components – a Water, Sanitation and Hygiene (WASH) survey, a handwashing behavior study and the HOS, using an adapted version of the Philippine HOS protocol. The components of the FIT-PAS are shown in Figure 1.

Data collection included:

FIT-PAS	School	→ Water, Sanitation and Hygiene (WASH) <sup>1</sup>	Assessment of WASH facilities in schools
	Child	→ Handwashing Behavior <sup>2</sup>	Observation of handwashing practices after latrine use and interview on handwashing norms done only in Cambodia
		→ Child Health/Health Outcome Study (HOS) <sup>1,3</sup> Parasitological, Nutritional and Oral Health Status	Collection of stool specimen, weight and height measurements, oral health examinations and interviews

1 Cambodia, Indonesia, Lao PDR; 2 Cambodia, 2014; 3 Philippines, 2009–2012



#### WASH in Schools milestones in the Philippines:

- WASH in Schools technical working group involving development partners (2012)
- Pilot of an incentive-based monitoring system in 2 regions (2013)
- National WASH in Schools Policy (2016)
- Implementing guidelines for WASH in Schools Policy (2016)
- Baseline data gathering for national WASH in Schools monitoring system (2017)



The study in the Philippines involved 18 model public elementary schools and three control public elementary schools selected by DepEd in 2009. Using a similar methodology, the FIT-PAS included ten model schools in Cambodia, nine from Indonesia and 22 from Lao PDR. For each model school, the nearest school of similar size implementing the regular national health education curriculum and bi-annual deworming was selected by the Ministry of Education in the respective countries to serve as control schools. From each school, a random selection of grade one students aged six to seven years old was drawn at baseline. The baseline sample size included 839 students in the Philippines, 624 students in Cambodia, 570 students in Indonesia and 655 students in Lao PDR. The respective follow-up rates after two years were 82 %, 77 %, 85 % and 82 %.

The research was carried out by implementing organizations in partnership with several local and interna-

tional universities. Data were collected by teams of trained personnel from the respective MoEs, the Ministries of Health (MoHs), local universities and local NGOs in each country. Review of school records to evaluate education outcomes was also done, but data had several limitations and were therefore excluded from the analysis.

The HOS data collection in the Philippines continued on a yearly basis until 2012. However, this publication only discusses the two-year impact for the benefit of comparability with results from the other regional countries. Significant progress has occurred since the conduct of the Health Outcome Study in the Philippines. Assuring quality implementation is essential to optimize the effect of the program. DepEd in the Philippines has modelled a supportive policy environment including government guidelines for monitoring and evaluation of WASH in Schools to assure that better hygiene behaviour and WASH services are at the core of the education.

# Regional // FIT-PAS Findings

School Water, Sanitation and Hygiene (WASH) in Cambodia, Indonesia, Lao PDR

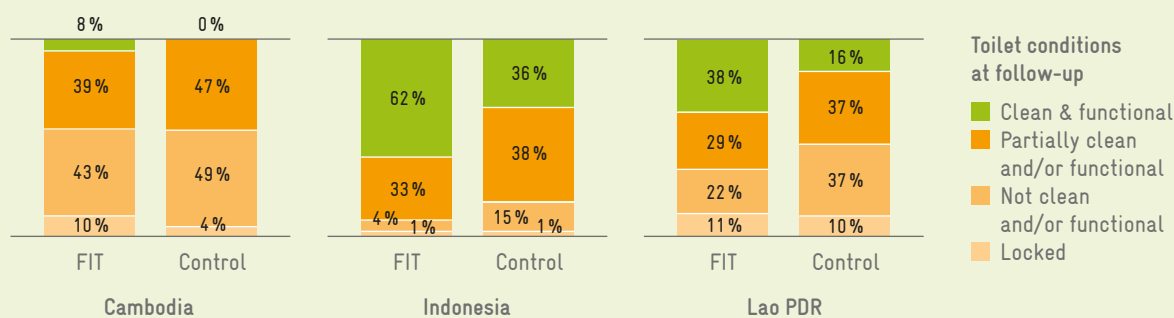
## Handwashing Facilities

Handwashing facilities at follow-up	Cambodia		Indonesia		Lao PDR	
	FIT	Control	FIT	Control	FIT	Control
Total number of handwashing slots per school (n)	224	18	103	9	115	18
Percentage of handwashing slots with water & soap per school (%)	89%	33%	87%	10%	95%	23%
Average number of students sharing one water slot per school (n)	4	55	6	74	2	66

Two years after implementing the FIT program in Cambodia, Indonesia and Lao PDR:

- FIT model schools had better access to handwashing facilities, water and soap due to the school-led construction of multiple group handwashing stations (WASHaLOTs).
- In model schools, the number of students sharing one water slot was significantly lower compared to control schools.
- Encouraged by the program implementation, model schools even went beyond intended program objectives and also built handwashing facilities for individual use.

## Toilets



Two years after implementing the FIT program in Cambodia, Indonesia and Lao PDR:

- The student-to-toilet ratio was comparable in model schools and control schools.
- Model schools had more clean and functional toilets compared to control schools.

Schools implementing the FIT approach had:

- Better availability of water and soap
- Better cleanliness and functionality of toilets



# Cambodia // FIT-PAS Findings

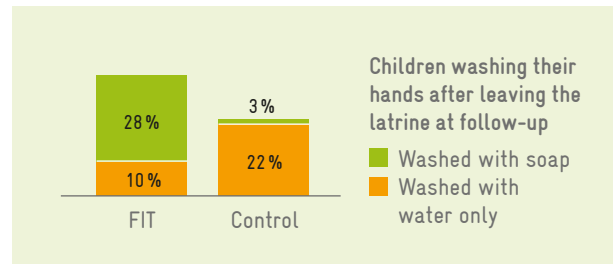
## Child Handwashing Behavior in Cambodia

### Handwashing Norms Interview

Handwashing norms after using the latrine	FIT	Control
Children who reported they always wash hands with soap (%)	44 %	40 %
Children who reported soap is very important (%)	67 %	74 %
Children who think all classmates wash hands with soap (%)	20 %	7 %

- The reported behavior of handwashing with soap was similar in model and control schools.
- More children in model schools think that their classmates wash hands with soap after using the latrine compared to children in control schools (20 % vs 7 %)
- This may indicate that group handwashing improves descriptive norms – seeing peers wash hands with soap encourages children to wash hands independently at critical times.

### Handwashing Observations



- The observations showed that children in model schools practiced independent handwashing with soap after using the latrine more often compared to children in control schools.
- However the limitations of a questionnaire approach to handwashing behavior were obvious when comparing reported and observes rates.

Access to water and soap encourages children to practice handwashing at critical times.

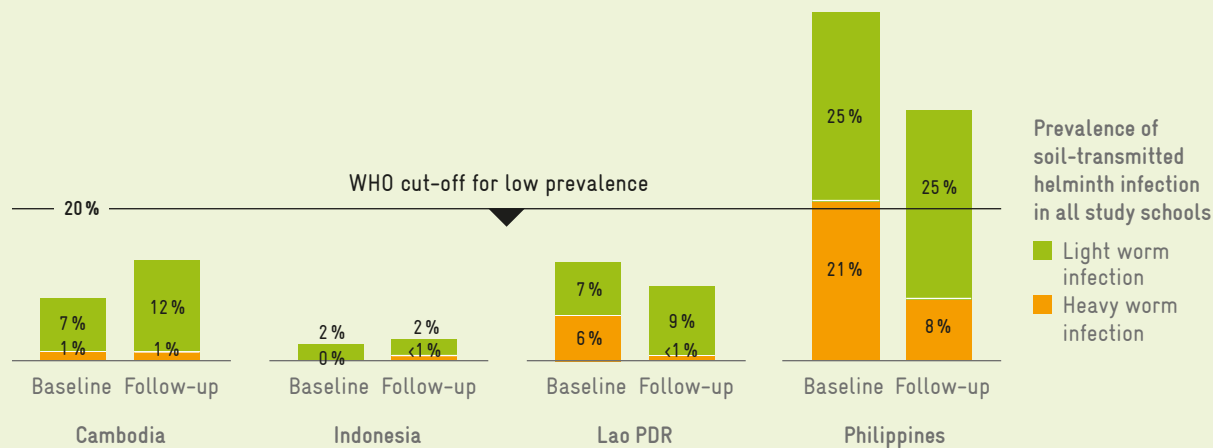
.....  
Observation is better than self-reported questionnaires to assess handwashing behaviour.



# Regional // FIT-PAS Findings

Child Child Health in Cambodia, Indonesia, Lao PDR and Philippines

## Intestinal Parasites // Soil-Transmitted Helminth Infection



- A deworming program has been in place in all four countries even before the FIT implementation started.
- Between 2009 to 2011, the prevalence of intestinal worm infection in the Philippines decreased in both FIT model and control schools.
- Between 2012 to 2014, the prevalence of intestinal worm infection remained low in Cambodia, Indonesia and Lao PDR.
- The low prevalence of heavy worm infection (1% to 8%) reflects the regularity and effectiveness of the deworming treatment.

The risk of having worm infection is higher for:

- children who already had worm infections at baseline,
- children from large families or living in rural areas – indicating higher risk for disadvantaged population groups,
- children who attend schools with less functional toilets – underscoring the need for complementary WASH interventions.

Deworming treatment needs to be embedded in overall improvement of WASH conditions at school and complemented with regular practice of hygiene activities.

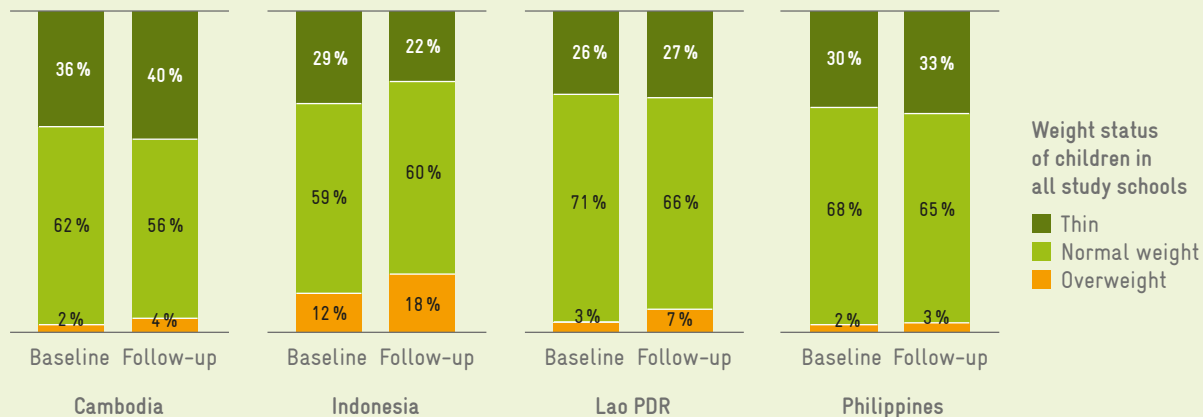


# Regional // FIT-PAS Findings

Child

Child Health in Cambodia, Indonesia, Lao PDR and Philippines

## Nutrition // Weight Status



- In all four countries, the prevalence of thinness was high, with one out of three or four children being thin at follow-up.
- The prevalence of thinness did not significantly change between baseline and follow-up, nor did it differ between model and control schools.
- In Indonesia, the increasing prevalence of overweight is an emerging public health problem among school children.

### The risk of being thin is higher for:

- children who were already thin at baseline – possibly due to a chronic condition,
- children from rural families,
- children with more decayed, missing and filled teeth.

The FIT interventions are necessary, but not sufficient to address the chronic and persistent burden of thinness.





# Regional // FIT-PAS Findings

Child Child Health in Cambodia, Indonesia, Lao PDR and Philippines

## Oral Health // Dental Caries

Oral health indicators	Philippines		Cambodia		Indonesia		Lao PDR	
	EHCP	Control	FIT	Control	FIT	Control	FIT*	Control*
Mean increase in number of decayed, missing, and filled permanent teeth (DMFT) per child	0.67	0.88	0.82	0.99	0.35	0.46	0.26	0.41
Percentage of new caries prevented (%)	24 %		17 %		24 %		38 %	

\* Children from schools covered by the Japan International Cooperation Agency (JICA) oral health program were excluded.

- In all four countries, the burden of oral diseases was extremely high with almost all children affected by dental caries in the primary dentition at baseline and at follow-up.
- At follow-up, one-third of the children had dental caries in at least one permanent tooth.
- Children in model schools developed significantly less dental caries in the permanent dentition compared to control schools.
- The risk of developing caries was higher for children living in urban areas.
- The difference in the protective effect of fluoride toothbrushing between the countries may be related to differing quality of implementation, i.e. length of school year, rigor of daily activities etc.

Daily group toothbrushing with fluoride toothpaste in schools prevented 17% to 38% of new caries lesions.





## Conclusion

### Challenges in Health and WASH in Schools

Limited access to handwashing facilities with water and soap in control schools in all countries.

Limited access to well-maintained toilets in control schools in all countries.

High prevalence of worm infection in the Philippines (2009-2011).

High prevalence of thinness in all countries (1 out of 3 to 4 children).

Increasing prevalence of overweight in Indonesia (1 out of 5 children).

High prevalence of dental caries in all countries.

#### Imprint

© Regional Fit for School Program 2016  
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH  
7/F PDCP Bank Centre / cor. V.A. Rufino and L.P. Leviste Streets  
Salcedo Village, Makati City 1227, Philippines, www.giz.de

GIZ is grateful to the Department of Education Philippines, Department of Health Philippines, the Cambodia, Ministry of Education and Sports (MoES), the Provincial Education Office of West Java, the Indonesia Ministry of Health, West Java School Health Team, Bandung City Health Office, Lao PDR Ministry of Education and Sports (MoES), the Lao PDR Ministry of Health (MoH) and SEAMED INNOTECH for the support and cooperation. Special thanks is given to, Xavier University Ateneo de Cagayan, University of the Philippines, National Institutes of Health, Universitas Padjajaran, Radboud University and to the staff of Fit for School Inc. GIZ thanks the principals, teachers, parents and children in participating schools for their time and to the many people who contributed knowledge and insights to the final publication.

**Principal Investigators:** → Dr. Martin Hobbell, Visiting Professor in Dental Public Health, Department of Epidemiology, University College London  
**Chief Investigators:** → **Philippines:** Ella Cecilia K. Ganolo- Naliponguit, MD, Director III, Bureau of Assisted Learning Services, Department of Education, Philippines → **Cambodia:** Dr. Yung Kunthearith, Deputy Director, School Health → **Indonesia:** Pantjawidi Djuharnoko, Public Health Subdivision Head, Social Basic Services Bureau of West Java, Governor's Office → **Lao PDR:** Ms. Panith Soukhanouong, Technical Officer, Department of Preschool and Primary Education, MoES  
**Co-Investigators:** → **Philippines:** Dr. Vicente Belizario, Under-Secretary, Department of Health, Philippines; Dr. Gina A. Itchon, Associate Professor, Preventive Community Medicine Department, Xavier University Ateneo de Cagayan → **Cambodia:** Dr. Hak Sithan, Chief, Oral Health Office, Preventive Medicine Department, Ministry of Health; Dr. Tepirou Chher, Dental Officer; Dr. Muth Sinuon, Chief of Helminths Unit, Helminths Department, National Center for Parasitology Entomology and Malaria Control, Ministry of Health → **Indonesia:** Sri Susilawati, Lecturer of Dental Public Health Department, Faculty of Dentistry, Universitas Padjadjaran, Dewi Kartini Sari, Standardization Section Chief, Ministry of Health; Sitti Ganefa Fakkii, Guidance and Evaluation Section Chief, Ministry of Health → **Lao PDR:** Dr. Amphayvanh Homsavath, Technical Officer, Academic Division and Research; Dr. Phonsevanh Soundra, Head, Community Dentistry; Dr. Phouphet Kanolath, Lecturer and Dr. Khamphoumy Chanboumy, Lecturer, Faculty of Dentistry, University of Health Sciences in Laos  
**Contributors:** → Dr. Denise Duijster, Research Consultant, University College London → Dr. Robert Dreibelbis, Assistant Professor, University of Oklahoma Center for Applied Social Research → Dr. Katrin Kromeyer-Hauschild, Professor, University Hospital – Friedrich-Schiller-University Jena → Dr. Roswitha Heinrich-Weltzien, Professor, University Hospital – Friedrich-Schiller-University Jena → Dr. Habib Benzian, Adjunct Professor, New York University → Dr. Bella Monse, Coordinator for Research and International Relations and Ms. Jed Dimaisip-Nabuab, Sr. Research Coordinator, GIZ Fit for School → Ms. Nicole Stauf, Policy Analyst and Project Manager, The Health Bureau → Mr. Philip Purnell, Manager, Educational Research and Innovation Office, SEAMED INNOTECH

Photos: → Ivan Sarenas; Design and layout: → Christine Lüdke, www.malzwei.de

For more Information on GIZ Fit for School, please contact:  
Nicole Siegmund, nicole.siegmund@giz.de

November 2016

Disclaimer: The publication is distributed free of charge and commercial reproduction is prohibited. GIZ encourages the distribution in the school health community; photocopying of the report and part of it for personal and educational purposes is allowed with recognition of the source. Requests for reprint and other inquiries should be directed to GIZ Fit for School, Manila, Philippines

ISBN 978-3-95645-848-4

### The Fit for School Program Helps to Address the Main Challenges:

Improving access to handwashing facilities, water and soap. ✓

Stimulating healthy hygiene practices, such as individual handwashing with soap at critical times. ✓

Supporting and strengthening the implementation of school-based national deworming programs. ✓

Reducing the development of new dental caries lesions. ✓



Published by:



In partnership with:

