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**Konrad-Adenauer-Stiftung Cambodia Office**



## The Future of Waste Management

### Seizing the Potential of Digitalization

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In today's world smartphones seem to be one of the most important things for us. We carry them everywhere and they help us to organize our daily routine and to stay in touch with family and friends. But how can we use our smartphones in order to improve the waste management around us? Or how can we use apps, digital tools and new technologies to improve our waste behavior or even create new business models? On November 30, 2018, the Konrad-Adenauer-Stiftung Cambodia in cooperation with COMPED and Wapatoa organized the first Waste ConfEx in Phnom Penh to answer questions like this. The full day event focused on the subject of waste management as well as the opportunities and potentials through increasing digitalization and new technologies. The event aimed at bringing together leading thinkers, was to unite diverse stakeholders from state institutions together with NGOs, representatives of the private sector as well as students and interested citizens to rethink waste.

In Cambodia, digitalization has already brought some fundamental changes on a social and economic level. It shows a huge potential for society, which so far has been successfully realized in the field of communication and public transport. For example, *Facebook* is a very important tool to keep in touch within the country; *PassApp* and *Grab* are frequently used for public transport. However, Cambodia is developing and with an increase of urbanization and an increasing middle class, the waste production and consumption of e.g. plastic grows in the country. Nevertheless, there are ideas and initiatives from a broad spectrum, like tech start-ups, restaurants and retailers who want to change something. The WasteConfex 2018, hosted by the Konrad-Adenauer-Stiftung Cambodia provided both, a platform for an open dialogue between different stakeholders as well as the opportunity to gain important

knowledge about the current status and future developments. In the run up of the event, the Konrad-Adenauer-Stiftung has already worked on a research paper about the challenging issue, offering insights about the interaction of digitalization and environmental improvements as well as examples and application opportunities.

### The exhibition part - Show your vision and share it on- and offline

The WasteConfEx 2018 was opened with an exhibition lead by committed NGOs and approved experts. For example, the student founded start-up *SmartBin* explained their idea for the future of waste bins in Cambodia and the waste bin of the future. According to their vision, citizens should get a reward for putting their trash into the correct bin. The co-organizers from the non-governmental organization COMPED offered information about their daily work in which they try to promote the use of compost and fight for a better education for children regarding environmental issues.



Visitors hold compost in their hands. (Photo: KAS)

### Talking waste

The series of keynote speeches was initiated by H.E. Neth Pheaktra, Secretary of state and spokesman for the Ministry of Environment. He emphasized about the current situation in Cambodia concerning waste. He also referred to the plan to make Cambodia overall greener and cleaner for the citizens. This is a huge challenge since the country is confronted with an increasing amount of waste. Overall, there are tons of plastic nobody seem to care about. Regarding waste management, he named the biggest challenges in coping with the constant growth of population and economy as well as the lack of understanding for environmental protection from the citizens.

*“Before going into the tiniest detail, start with the basics.”*

Starting with this quote, Dr. Jürgen Stäudel showed the enormous potential of using data to improve the removal of waste. He built a bridge to the German waste and transport system where waste separation is applied since years. Furthermore, he explained how digitalization can be used effectively with GPS and Transponder in order to improve waste transport and explained the enormous potential that can already be achieved by using appropriate apps and online games such as the “Zero Waste App”, which is common in Germany to find sustainable retailers. However, as a first main point for Cambodia he recommended to

master the simple basics such as a functional garbage collection before starting to go into complex technical detail.

## Technical adaption to human belongings

The last presentation of Dr. C. Visvanathan dealt with revolutionary innovations in waste technology. The professor for Environmental Engineering at the Asian Institute of Technology showed how modern techniques are changing the field of waste management. Using the term Waste 4.0, he outlined how apps and automated sorting processes by robots can have a positive impact on the future of waste management and fundamentally change how we treat waste. Besides, he showed the chronological development of bins, started with the ones without segregation and ended with intelligent bins as they're used in Seoul since 2011. According to his speech, such solar driven trash bins which indicate when they are full are just as much a part of our future as autonomous transport systems. His presentation was summed up with the important message that beside all technical developments, the social dimension should never be disregarded. We should adapt the technic to human needs and not the other way round.

## Having a critical and open dialogue

The last presentation was followed by the Open Forum, where the audience had the chance to interact with the speakers. In addition to the three experts, Ms. Kim Chanamarithvatey from young start-up *SmartBin* was ready to answer questions. Immediately the audience wanted to know how *SmartBin* works and if there's already a prototype of it. Furthermore, a woman asked why we already use geo data for public transport with *PassApp* and *Grab* but don't use it for comprehensive garbage-transport. Many Cambodians wanted to know why the government still doesn't spend enough money for environmental protection and why they don't update the technique for garbage-transport together with the responsible company CINTRI. German expert Stäudel used some of the technical questions from the visitors to outline the necessary of functioning basics before adapting to the latest digital trends. Also plastic became a topic, when Dr. C. Visvanathan explained that beside all disadvantages of the material and the constant developments we still need plastic bottles in the present and that we just cannot ban plastic within days.



From left to right: Dr. Stäudel, Prof. Visvanathan, Neath Pheaktra and Kim Chanamarithvatey (Photo: KAS)

After the input the workshops started. The visitors had the chance to participate with their ideas at the different "Idea Factories" and to elaborate concrete suggestions for the future of waste management. Depending on every particular workshop, it was a wide range of ideas coming up. From concrete tips to use reusable coffee cups and cotton bags over technical suggestions for better education with online games or smartphone apps up to visions of the smart cities in the future which will produce zero waste there were plenty of ideas. The workshops also referred to the different stakeholders such as government, households and companies and set their role for a stepwise sustainable improvement.

### **The Idea Factories at the WasteConfEx 2018**

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Understanding the Complexity of Waste

Dealing with Waste through Public Awareness

Changing Mindsets: How to Create Impactful Digital Content for Youth

Rethinking Strategies and Business Models: Towards Citizen-Centered Waste Management

The Potential of Data to Rebuild Waste Management

Closing the Waste Cycle: The Future of Recycling in Cambodia

Waste in 2030

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An overview about the several topics of the different workshops

When every workshop was visited by the participants, the experts from each station presented the main results. At the end there's for instance the urgent need of early education for all Cambodian citizens in order to raise more awareness from society, the important implementation of comprehensive waste transport for the whole country as well as the use of GPS, social media, intelligent dustbins and autonomous sorting systems to release the full potential of digital techniques in the field of waste management. But beside all of the "big ideas", there was the discernment that the journey for a better future starts with each small decision we make every day. If only a few participants have internalized that message, the event was already worth it.

### **The three takeaways:**

1. A frequent dialogue between all stakeholders dedicated to the topic is necessary for a sustainable change in the field of waste-management.
2. Build the future of waste management in Cambodia on the foundation of functional basics and not just on the latest tech-trends.
3. Don't forget the social aspect! We can't force a change which is against people's needs.





The participants collected plenty of ideas in the workshops (Photo: KAS)

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