

Build4People – Project activities on site in Phnom Penh, Cambodia and in Bangkok, Thailand, in September and October 2023

In late September and early October 2023, the Build4People team was working on site for about two weeks.

Ahead of the stay in Phnom Penh, Cambodia, the Build4People Work Package leaders and local research partners jointly attended the BMBF Sure Status Conference in Bangkok organized by the SURE Facilitation and Synthesis Project.

For our Build4People the two-day event was a great opportunity to introduce about Build4People's transformative approaches to a wider public, to learn from insightful keynote presentations, and, most important of all, to do networking and to exchange knowledge with the representatives of other SURE project teams.

In the aftermath of the SURE Status Conference, a leading representative of BMBF, Dr. Verena Hebecker, Deputy Head of Division 723 „Global Change, Climate Research“ at the German Federal Ministry of Education and Research (BMBF), Dr. Heike Bauer from the DLR Project Management Agency as project manager of the Funding Priority SURE and Prof. Dr. Rainer Nönning, head of the Digital City Science Lab at the HafenCity University of Hamburg, and one of the coordinators of the SURE Facilitation and Synthesis Project, travelled with us to Phnom Penh and as a delegation joined various activities of our team on 28 and 29 September 2023.

Over and above, key activities the whole Build4People team were technical meetings with our implementation partner, the Phnom Penh Capital Administration, and the Ministry of Land Management, Urban Planning and Construction, as well as an exchange with representatives of local developer companies to identify a new urban development site in the context of the upcoming Build4People Ecocity Transition Lab.

So, this report provides a detailed overview of all of the individual and collective project activities and events that were conducted during the second Build4People team stay in 2023.

Overview of Activities of Build4People Team Stay in Phnom Penh, 2nd Stay in 2023

Build4People Project

Enhancing Quality of Life through Sustainable Urban Transformation in Cambodia

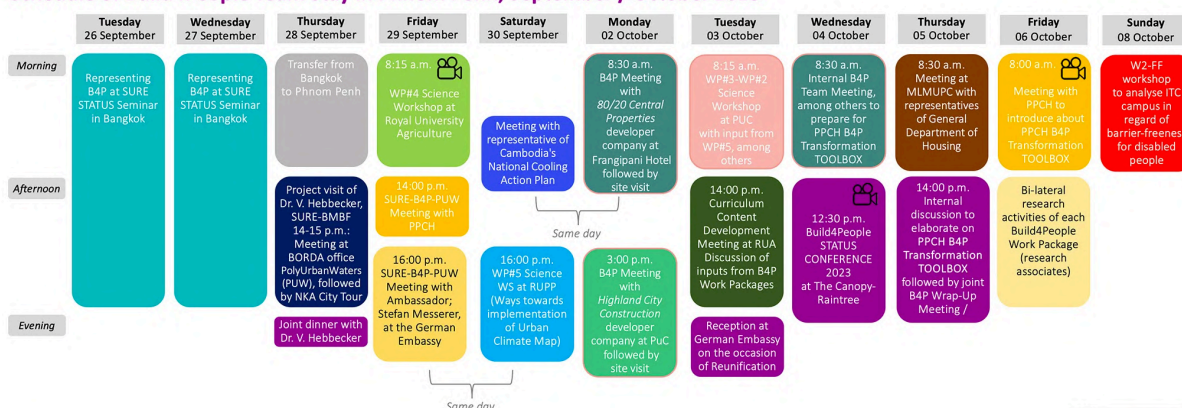


Sustainable Development
of Urban Regions



DEF 2019-2021
R&D 2021-2025
IMP 2025-2027

Schedule of Build4People Team Stay in Phnom Penh, September / October 2023



Build4People | Schedule of 2nd Team Stay 2023

Build4People's Representation at the SURE Status Seminar, Bangkok

From 26-27 September 2023, all in all 13 members of the Build4People team joined the SURE Status Seminar in Bangkok.



This event was the first opportunity for the Cambodia research partners to get to know all projects of the SURE family and all of its team members. From the side of the largest university of Cambodia, the Royal University of Phnom Penh (RUPP), four representatives took part: Dr. Sok Serey from the Research Department, Dr. Sothun Nop and Dr. Nydia Chhinh, both from the Department of Development Studies, and Bunleng Se, PhD candidate at the Department of Geography. The Royal University of Agriculture got represented by Dr. Sanara Hor, Dean of the Faculty of Land Management and Land Administration, and Build4People Work Package “Urban Green Infrastructures” partner of Prof. Jan-Peter Mund. Prof. Dr. Virak Han from the Institute of Technology of Cambodia (ITC) took part as research partner from Build4People Work Package “Sustainable Building”, which was also represented by Ms. Christina Karagianna from the Technical School of Applied Sciences Lübeck.

Last but not least, Prof. Dr. Tep Makathy joined the Status Seminar as project management partner of the consortium lead from Hamburg University and as research partner of Build4People Work Package “Sustainable Neighbourhoods”.

For the whole Build4People team it was a great experience to listen to the vivid presentations such as from the keynote speakers.

But maybe even more important was to join the more horizontal formats like the World Café discussion rounds, or the manifold informal exchange during the lunch and coffee breaks.

The participation at this meaningful event has truly enriched our perspectives, and we are particularly grateful to the SURE Facilitation and Synthesis project for their dedicated organizational efforts.



Build4People Exchange with PolyUrbanWaters at BORDA office, Phnom Penh

On 28 September 2023, team members of the Build4People project met with team members of PolyUrbanWaters project at the office of BORDA e.V. in Phnom Penh.

This meeting was part of a delegation visit led by Dr. Verena Hebbecker, Deputy Head of Division 723 „Global Change, Climate Research“ at the German Federal Ministry of Education and Research (BMBF) and coordinator of the Funding Priority SURE – Sustainable Development of Urban Regions. Thereby, Dr. Heike Bauer accompanied her from the DLR Project Management Agency, which is project management coordinator of the SURE funding priority. Both were further joined by Prof. Dr. Rainer Nönning, head of the Digital City Science Lab at the HafenCity University of Hamburg, and one of the coordinators of the SURE Facilitation and Synthesis Project.



The meeting started with brief project presentations, first by Dr. Bernd Gutterer, leader of the PolyUrbanWaters project, BORDA e.V Bremen, and then by Dr. Michael Waibel, leader of the

Build4People project, Hamburg University. Among others, Dr. Michael Waibel made clear, that systemic crosscutting transdisciplinary approaches are required to achieve a successful transformative shift towards more urban sustainability in Cambodia as well in Germany. The input from both speakers was the basis of a vibrant and intense discussion about potential synergies between the two projects, which are both part of the SURE funding priority of BMBF.

A first more specific idea to collaborate was to make use of the expertise in the field of water-sensitive management of the PolyUrbanWaters project in the context of the next Build4People Ecocity Transition Lab scheduled for early March 2024, which will focus on a Greenfield development in Phnom Penh together with the developer company OCIC.

All in all, it has been a very fruitful meeting with promising perspectives and the whole Build4People would like to express its deep gratitude to get invited to the BORDA office.

Build4People organizes New Khmer Architecture Tour in the context of BMBF-SURE delegation visit to Phnom Penh

On 28 September 2023, Build4People organized a New Khmer Architecture Tour for the BMBF-SURE delegation in Phnom Penh.



The focus of the tour was the campus of the Institute of Foreign Languages (IFL) designed by the most famous representative of the New Khmer architecture style, the architect Vann Molyvann, a former student of Le Corbusier in Paris.

The BMBF-SURE delegation encompassed Dr. Verena Hebbecke, Deputy Head of Division 723 „Global Change, Climate Research“ at the German Federal Ministry of Education and Research (BMBF) and coordinator of the Funding Priority SURE – Sustainable Development of Urban Regions.

Thereby, Dr. Heike Bauer accompanied her from the DLR Project Management Agency who is project management coordinator of the SURE funding priority.

Both were further joined by Prof. Dr. Rainer Nönning, head of the Digital City Science Lab at the HafenCity University of Hamburg, and one of the coordinators of the SURE Facilitation and Synthesis Project.

Furthermore, team members of SURE project PolyUrbanWaters, who apply water-sensitive urban management approaches in the Kratie province of Cambodia, joined our tour.

The guided tour was led by Mr. Norak Silver, a Bachelor student of Urban Planning in his fourth year at the Faculty of Architecture and Urban Planning of Paññāsāstra University of Cambodia which is the trusted research partner of Build4People Work Package #3 “Sustainable Neighbourhoods”.

Science Workshop of Build4People Work Package “Urban Green Infrastructures” at campus of Royal University of Agriculture

On 29 September 2023, the Build4People Work Package #4 “Urban Green Infrastructures” organized a Science Workshop at the campus of the Royal University of Agriculture in Phnom Penh.



This event aimed to discuss the impact and significance of urban green spaces, particularly in Phnom Penh, and to explore their potential as assets for elevating the urban quality of life.

With distinguished speakers from Cambodia and Germany, the workshop offered a highly insightful combination of theoretical discussions, practical updates, and innovative technological interventions.

Through rigorous discussions, poster presentations, and an interactive panel, the workshop contributed to sustainable urban planning strategies that prioritize green infrastructures and the well being of urban residents of Phnom Penh.

The workshop started with the welcome speech by the HE Ngo Bunthan, Rector of the Royal Agricultural University (RUA). He welcomed all the guests from both Cambodia and Germany. He specifically mentioned the collaboration between Build4People Project and RUA how it not only brought fruitful research results but also contributed to the development of the newly found master’s and PhD program on Regional and Urban Planning.

The welcome remarks followed by Dr Verena Hebbecke, Deputy Head of Division 723 „Global Change, Climate Research“ at the German Federal Ministry of Education and Research (BMBF), Coordinator of the Funding Priority SURE – Sustainable Development of Urban Regions. Dr. Hebbecke pointed out the funding support from the BMBF under the SURE umbrella in the region and highlighted the Build4People as one of the flagship projects in the region.

WORKSHOP AGENDA

08:30 - 08:50 Welcome remarks

H.E Ngo Bunthan (Rector, RUA)

Dr Verena Hebbecke, Deputy Head of Division 723 „Global Change, Climate Research“ at the German Federal Ministry of Education and Research (BMBF), Coordinator of the Funding Priority SURE - Sustainable Development of Urban Regions

08:50 - 09:00 General approaches of the Build4People project

Dr Michael Waibel, B4P consortium leader

09:00 - 09:20 Official Announcement: New Master's and PhD Programs in Regional and Urban Planning

Dr Sanara Hor, Dean of Faculty of Land Management and Land Administration, RUA

09:20 - 09:25 Group photo

09:25 - 09:40 Update on the ongoing activities of WP4

Dr Jan-Peter Mund, B4P Work Package Leader „Urban Green Infrastructures“

09:40 – 09:50 –Citizen Science App Development for UQoL – A cooperation between WP1 and WP4

Dr Anke Blöbaum, B4P Work Package Leader „Behaviour Change“

09:50 - 10:05 Urban green space structures and their thermal footprints

Gulam Mohiuddin, Research Associate, B4P WP „Urban Green Infrastructures“

10:05 - 10:35 Coffee / Tea Break

RUA scientific poster presentation + select posters of B4P Exhibition 2023.

10:35 – 11:05 How can urban green spaces be an asset to the quality of urban life in Phnom Penh?

Moderated Young Scientist panel discussion

(Panellists: Dr Pok Sopheak; Piseth Keth; Christina Karagianni. Moderation by: Dr Sanara Hor, RUA)

11:05 -11:20 Reflection on the role of urban green spaces in Phnom Penh

Dr Jan-Peter Mund, B4P, Work Package Leader „Urban Green Infrastructures“

11:20 - 11:35 Closing remarks

HE SAR SOVANN (Secretary of State at Ministry of Land Management, Urban Planning and Construction)

Furthermore, the announcement of new academic programs in Regional and Urban Planning underlines the commitment to fostering future leaders in this domain.

After this, the Build4People consortium leader Dr. Michael Waibel presented the general approaches of the Build4People project. Dr. Waibel highlighted how the project is contributing to the sustainable urban transformation in Phnom Penh.

Dr. Sanara Hor, Dean of Faculty of Land Management and Land Administration (FLMLA) in RUA, made the official announcement of the new Master's and PhD Programs in Regional and Urban Planning. He acknowledged and thanked the Build4People Project to contribute to this success among others.

Following this, the Build4People Work Package #4 “Urban Green Infrastructure” leader Professor Dr. Jan-Peter Mund provided an update on Update on the ongoing activities of WP4. He mentioned the key research findings so far including the key publications and conference presentations. He highlighted the tool for monitoring land surface temperature (LST) in Phnom Penh, which will be part of the upcoming B4P Transformation Toolbox.



Dr. Mund concluded his presentation by discussing the Further Work and Outlook of the WP4 and once again congratulating RUA for their successful launch of the new Master’s and PhD Programs in Regional and Urban Planning.

B4P Work Package #1 “Behaviour Change” Leader, Dr. Anke Blöbaum, presented about the B4P Citizen Science App development for Urban Quality of Life (UQoL) in Phnom Penh, which is a cooperation between WP#1 and WP#4. She highlighted how the proposed App can collect citizen’s perception on UQoL from a urban green infrastructure perspective and how it will be useful for the decision-making and urban planning.

Build4People Project

Enhancing Quality of Life through Sustainable Urban Transformation in Cambodia

SPONSORED BY THE

Federal Ministry of Education and Research

FONA Research for sustainability

SURE Sustainable Development of Urban Regions

B4P Citizen Science APP for Urban Quality of Life

B4P-CS-APP methodology and development

- Mobile phone app → Android and iOS platforms to ensure a broad reach among Phnom Penh City residents.
- B4P-CS-APP features an intuitive interface, allowing to answer questions based on a 5-point Likert scale.
- Questions are designed to gather information about users' assessment of the perceived UQoL, accessibility, and importance of UGI **for the specific location of the user while using the APP**

not at all satisfied

1 2 3 4 5

totally satisfied

build4people.org

| Work Package #4 “Urban Green Infrastructures” Science Workshop | Royal University of Agriculture, Phnom Penh, 29 September 2023 |

Page 7

B4P WP #4 Research Associate Gulam Mohiuddin then presented on the thermal footprint of the urban green infrastructure in Phnom Penh. As a case study he presented the immediate findings from a green space using the analysis of a thermal UAV images.

The workshop had a panel discussion, moderated by Dr Sanara Hor, RUA, with following speakers: Dr Pok Sopheak of RUA, Piseth Keth of Urban Lab Cambodia, Ms. Christina Karagianni, Research Associate of B4P WP#2. The panelists highlighted results from their studies and experiences regarding the urban green infrastructure and its implications in Phnom Penh.

The audience also joined the vibrant discussion asking different questions and sharing their experiences.

Furthermore, the Science Workshop also had a poster session including the posters from Build4People and student's work from the RUA. The participants and guests had an interactive discussion about the posters during the session.

Professor Dr. Jan-Peter Mund provide the reflection from the workshop and he emphasized the importance of such discussions regarding urban green infrastructure in Phnom Penh which is crucial to a sustainable neighbourhood at the city level.

The closing remarks were provided by HE Sar Sovann (Secretary of State at Ministry of Land Management, Urban Planning and Construction, MLMUPC). At first, he thanked all the guests and participants to attend the event and to have such meaningful discussions. He further mentioned how RUA as a research partner is contributing to the Build4People project and how the project is substantially contributing to the sustainable development of Phnom Penh and Cambodia. He finally emphasized the involvement of young students and researchers on this topic ("young bamboo"), which will have a noticeable effect on the overall urban green infrastructure of Phnom Penh.

To conclude, the workshop has put focus on the topic of urban green infrastructure to Phnom Penh and it was perceived as a very well organized opportunity to exchange about recent research findings. The interactive discussions generated new ideas for activities that will contribute to continuously deteriorating urban green in Phnom Penh.



[Link to YouTube video clip documentation of the Build4People Work Package #4 Science Workshop "Urban Green Infrastructures" at Royal University of Agriculture](#)

Roundtable Workshop of SURE Funding Priority Representatives together with Representatives of Phnom Penh City Hall

On 29 October 2023, representatives of the SURE funding priority met with representatives of Phnom Penh City Administration at Phnom Penh City Hall.

The German delegation was led by Dr. Verena Hebbeker, Deputy Head of Division 723 „Global Change, Climate Research“ at the German Federal Ministry of Education and Research (BMBF) and coordinator of the Funding Priority SURE – Sustainable Development of Urban Regions. Dr. Heike Bauer accompanied her from the DLR Project Management Agency who is project management coordinator of the SURE funding priority. They were joined by Prof. Dr. Rainer Nönning, head of the Digital City Science Lab at the HafenCity University of Hamburg, and one of the coordinators of the SURE Facilitation and Synthesis Project.

Furthermore, representatives of two SURE projects took part, among them Dr. Michael Waibel, leader of the Build4People collaborative project, Hamburg University, and Dr. Bernd Gutterer, leader of the PolyUrbanWaters project, BORDA e.V Bremen.

Mr. Sor Phara, Deputy Director of Urban Planning Division, PPCH and Mr. Phanin Cheam, Vice-Head Urban Management Division of PPCH, and staff of the Office for International Relations represented the Phnom Penh City Administration.

Furthermore, Prof Dr Tep Makathy, Dean of Faculty of Architecture and Urban Planning, Paññāsāstra University of Cambodia, and General Director of Cambodian Institute of Urban Studies, Project management partner of the two SURE projects PolyUrbanWaters and Build4People, joined the meeting.

At the beginning of the meeting Dr. Verena Hebbecke explained the rationale behind SURE funding priority, which currently supports ten collaborative projects in Southeast Asia and China. These projects are trying to develop locally implementable solution strategies for the sustainable use of resources and an improved quality of life in urban regions. Thereby, the focus lies on the development and testing of concepts for a sustainable transformation of fast-growing urban regions as, for example, done by means of the transdisciplinary Ecocity Transition Lab approach of the Build4People project.

Her input was followed by further presentations from Prof. Dr.-Ing. Jörg Rainer Noennig, Dr. Bernd Gutterer and Dr. Michael Waibel.

After this, there was an open exchange and discussion moderated by Dr. Anke Blöbaum, Leader of Build4People WP#1 “Behaviour Change”, Magdeburg University, Germany. It showed, among others, that from the side of Phnom Penh City Administration, there was interest in the topic of water-sensitive urban management and consequently, it was discussed how to integrate the valuable expertise from PolyUrbanWaters into the upcoming Build4People Ecocity Transition Lab.

Finally, Prof. Dr. Tep Makathy drew his conclusions and presented ideas for joint collaborative next work steps.



Science Workshop of Build4People Work Package “Urban Climate” at Royal University of Phnom Penh

On 29 September 2023, the Build4People Work Package #5 “Urban Climate”, led by the Institute for Climate and Energy Strategies (INKEK), organized a Science Workshop about Urban Climate Guidelines at the Department of Geography of the Royal University of Phnom Penh (RUPP).



The main purpose of the Science Workshop was to present current research results and to achieve a general understanding of contents and methods of urban climate guidelines for Phnom Penh.

Lecturers on urban climatology as well as the responsible Professor for the climate change master course attended the Wp#5 Science Workshop. Build4People team members from the Work Packages “Sustainable Building”, Sustainable Neighbourhoods and Sustainable Urban Transformation further joined it. Students from Geographical Department of RUPP, who were partly already involved in ongoing measurements plus more interested students did join, as well. In this way, it also served as an educational event for select local students.

The presentations showed the current status of the research and empirical results. Mainly the different urban climate maps, modeling on different scales were presented. Focus was given to the downscaling method to investigate microclimate conditions for urban design. This method can be generalised for more climate-sensitive neighbourhood planning.

By means of the ENVIMET software, the local research partners at RUPP will soon carry out more studies. Education and practice will be provided by INKEK. Furthermore, the method how to use numerical modeling for planning was discussed with the conclusion that even more areas will be calculated. Necessary licenses and servers to do this will be provided by RUPP.

To achieve the transfer from science to implementation, Ms. Nuria Roig, research associate of Build4People Work Package #3 “Sustainable Neighbourhoods”, presented the very first draft of the co-called *Build4People Transformation Toolbox*.

This was followed by a discussion how to integrate the results of the urban climatic map parameters into the system of the toolbox.

Based on the discussions following concrete steps have been agreed upon:

- Publication of a document on the principals of a climatological oriented planning. This has already been drafted by INKEK, and will soon be translated into Khmer Language and then disseminated.
- To calibrate and evaluate the urban climate map of Phnom Penh in regard of the local thermal comfort sensation for Cambodia it was decided that more interviews would be carried out. The participating students showed strong interest to support this approach within their studies.
- Integration of the topic of urban climate into the Climate Change Master Course at RUPP.
- Preparation of a workshop bringing together representatives from the International Association of Urban Climatology (IAUC), the World Meteorological Organisation (WMO) with representatives of the Ministry of Environment (MOE), the Ministry of Land Management, Urban Planning and Construction (MLMUPC) and the Phnom Penh Capital Hall (PPCH). This workshop shall foster the implementation of urban climate into local planning processes.

To further discuss these strategically relevant topics, there was an immediate follow-up meeting after the Science Workshop on the campus of RUPP. This informal meeting in-between representatives of the Build4People Work Packages also served to discuss how urban climate could be better integrated in the overall planning system of Cambodia.

Exchange with the German Ambassador Stefan Messerer in the Royal Kingdom of Cambodia

On 29 September 2023, members of the SURE funding priority from the German Ministry of Education and Research (BMBF) met for an exchange with the German Ambassador Stefan Messerer in the Royal Kingdom of Cambodia at the German embassy in Phnom Penh.

The delegation was led by Dr. Verena Hebbecke, Deputy Head of Division 723 „Global Change, Climate Research“ at the German Federal Ministry of Education and Research (BMBF) and coordinator of the Funding Priority SURE – Sustainable Development of Urban Regions. Dr. Heike Bauer accompanied her from the DLR Project Management Agency who is project management coordinator of the SURE funding priority. They were joined by Prof. Dr. Rainer Nönning, head of the Digital City Science Lab at the HafenCity University of Hamburg, and one of the coordinators of the SURE Facilitation and Synthesis Project. Furthermore, representatives of two SURE projects took part, among them Dr. Michael Waibel, leader of the Build4People collaborative project, Hamburg University, and Dr. Bernd Gutterer, leader of the PolyUrbanWaters project, BORDA e.V Bremen.

During the meeting, Dr. Verena Hebbecke introduced more in detail about the BMBF SURE funding priority whereas Stefan Messerer provided insights in the current political and socioeconomic situation within Cambodia. Also, both SURE projects, Build4People and PolyUrbanWaters, received the opportunity to introduce about their project approaches. In the following it developed a vivid discussion about the challenges and opportunities in the local project contexts.

From our side it was highly appreciated that Stefan Messerer showed keen interest in the BMBF activities in Cambodia and that he assured the active support of the German embassy in regard of the project implementation. That is why we would like to express our sincere thanks for providing his precious time to us and for his supportive attitude, in general.



Build4People exchange with CEOs of two local developer companies and respective site visits

On 02 October, the Build4People team met with leading representatives of two local developer companies to explore potential sites in regard of the preparation of the Build4People Ecocity Transition Lab 2024.

In the morning the team met with Mr. Somethearith Din, CEO of 80/20 Central Properties, at the Frangipani Hotel, Phnom Penh, for mutual introductions, to explain about Build4People's approach and most importantly about the potential site, a wetland area, partly constructed already, located in the surrounding Kandal province southwest of Phnom Penh.

This was followed by a bus trip to pay visit to the site and to have joint lunch.

In the afternoon, the Build4People team met at the Faculty of Architecture and Urban Planning of Paññāsāstra University of Cambodia to meet Mr. David Taing, CEO of Highland City Construction Developer Company, to discuss another site option.

Thereby, it was also about an area located in Kandal province, but this time north of Phnom Penh. This specific site has seen no construction, so far, and it is basically still a wetland area, which would require water-sensitive urban management in case of construction.



After intense internal consultations and an additional exchange with our implementation partner, the Phnom Capital Hall, the Build4People team jointly decided not to focus on one of these two sites in regard of the Build4People Ecocity Transition Lab 2024.



Nevertheless, the talk to the developer companies and the site visits provided valuable insights into the current critical situation of the real estate market and the challenges of implementing new residential neighbourhoods in Phnom Penh.

The Build4People team would therefore like to sincerely thank to the representatives of 80/20 Central Properties and of Highland City Construction for granting us their precious time and for the meaningful exchange.

Exchange of Build4People Work Packages “Sustainable Building” and “Urban Climate” with a leading consultant of Cambodia’s National Cooling Action Plan in Phnom Penh

On 02 October 2023, members of the Build4People team met Andéol Cadin, an architect and planner for sustainable development, and currently consultant for Cambodia’s National Cooling Action Plan. During the meeting Andéol presented this meaningful initiative, coordinated by the National Council for Sustainable Development, which has its seat at the Ministry of Environment.



Part of the National Cooling Action Plan are the collection of data through the measurement of indoor and outdoor conditions.

During the meeting potential synergies between the Build4People Work Packages “Sustainable Building” and “Urban Climate” were discussed. It showed that there are many possibilities to cooperate, especially as all covers different scale, which can be brought together with a high synergy.

It was agreed to create a larger network to in cooperate results into the different action plans and tools.

Joint Science Workshop of Build4People Work Packages “Sustainable Neighbourhoods” and “Sustainable Building” at Paññāsāstra University of Cambodia

On 03 October 2023, the 3rd Science Workshop of B4P WP#3 “Sustainable Neighbourhoods” took place at the Paññāsāstra University of Cambodia. For the first time, it was organized as an interdisciplinary effort with B4P WP#2 “Sustainable Building” and further with input from WP#5 “Urban Climate”.

The overarching topic of this Science Workshop was “Climate Protection and Energy Flows”. Thereby, the main aim was to introduce the latest research conclusions in regard to energy supply, energy

efficiency and climate protection tools from the Build4People Project, with the specific objective to familiarise students with alternative design strategies and tools to reduce the environmental impact of buildings.



After the welcome remarks of Dr. Michael Waibel, Build4People project consortium representative, Hamburg University, and of Dr. Justin Dara Op, Vice-President of Paññāsāstra University of Cambodia, the Science Workshop continued with input presentations from several B4P team members.

The first talk encompassed the overview of design strategies for sustainable neighbourhood development, which were presented by Ms. Nuria Roig, Research Associate of B4P WP#3 “Sustainable Neighbourhoods. It was followed by the presentation of relevant best practice examples in Southeast Asia region introduced by Mr. Messerschmidt, WP#3 leader and CEO of Eble Messerschmidt Partner, Tübingen, Germany.

Deepening into the topic of energy efficient buildings, Ms. Christina Karagianni, Research Associate of B4P WP#2 “Sustainable Building”, detailed the impacts of passive design strategies as well as the implementation of more advanced measures to reduce energy consumption to procure the construction of future-proof buildings. Making a strong emphasis on the building-climate interaction, Prof. Dr. Lutz Katzschner, leader of B4P WP#5 “Urban Climate”, explained how the innovative Urban Climate Map recently developed by his team could be used to better understand the local climatic conditions. This tool and its derived localized urban climate guidelines are regarded as an important milestone towards a more sustainable urban transformation pathway of Phnom Penh.

After these valuable inputs from the German B4P team members, students from the Paññāsāstra University of Cambodia and from the Institute of Technology of Cambodia (ITC) jointly worked on a quick practical exercise.

Their task was to estimate the energy savings derived from the implementation of the wide range of strategies discussed during the first half of the workshop.

At the end of the session, the students presented their results, which included rule of thumbs to estimate the potential energy savings on buildings and neighbourhoods and sketches that helped

illustrating the wide range of benefits on the environment and quality of life these strategies might have for the inhabitants of Phnom Penh.



The organizing team of this inspiring inter-disciplinary Science Workshop would like to sincerely thank all the participants for their dedicated support and valuable contributions to the vibrant discussions and to the fruitful group work.

Build4People Master Curriculum Development Meeting at Royal University of Agriculture, Phnom Penh

On 03 October 2023, the Build4People Work Package leaders met with representatives of the Faculty of Land Management and Land Administration (FLMLA) at the campus of the Royal University of Agriculture (RUA) in Phnom Penh.

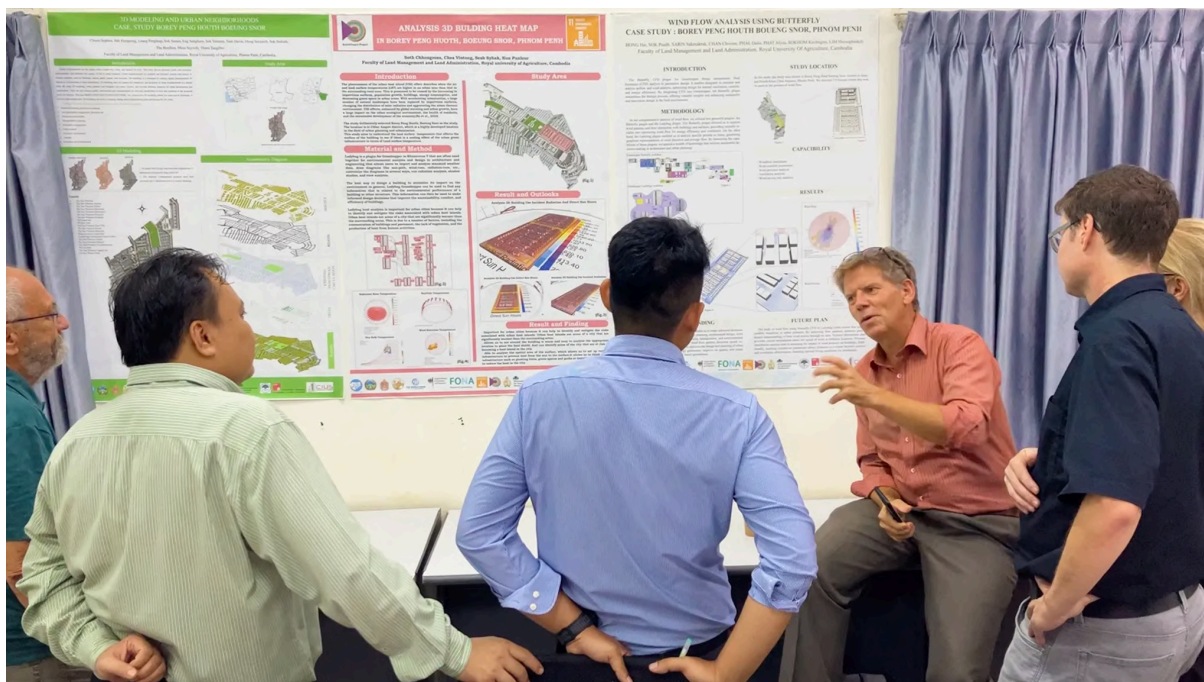
Hereby, they followed the invitation of Dr Sanara Hor, Dean of FLMLA, who's new Master curriculum about regional, urban and rural planning got recently approved by the Cambodian Ministry of Education, Youth and Sport.

In this way, the general objective of the meeting was to gather inputs from the Build4People team for curriculum development pinpointing B4P's courses related to the programs while at the same it was sought for further research and joint education collaboration.

During the meeting master and doctoral programs on regional and urban planning were intensively discussed between the FLMLA and the Build4People team.

In the course of the fruitful discussions the FLMLA got substantial feedback in regard of envisaged courses, such as about "Transitional Urban Planning", "Environmental Architecture: Sustainable Building", "Urban Green and Climate", "Integrated Neighborhood Development" and "Spatial Science and Technology".

During the concluding discussion a roadmap was discussed to proceed further to achieve a maximum of mutual benefits in regard of the Master course which is expected to start in early 2024, already.



Build4People's representation during reception of the German Embassy on 03 October 2023

On 03 October 2023, the Build4People members Dr. Michael Waibel, Hamburg University, and Rolf Messerschmidt, CEO of Eble Messerschmidt Partner (EMP), Tübingen, followed the invitation of the German ambassador Stefan Messerer to attend the reception in the context of the celebration of the reunification day of Germany and of 30 years of diplomatic relations between the Royal Kingdom of Cambodia and Germany. In addition, as a representative of our funding agency, Dr. Heike Bauer, coordinator of the BMBF Funding Priority SURE at the DLR Project Management Agency (funding Agency on behalf of the German Ministry of Education and Research, BMBF) joined the reception, as well.

For us, it was a good opportunity to connect to different local stakeholders, for example to representatives of the Global Green Growth Institute, the Konrad Adenauer Foundation, the German International Cooperation and staff of the German embassy.



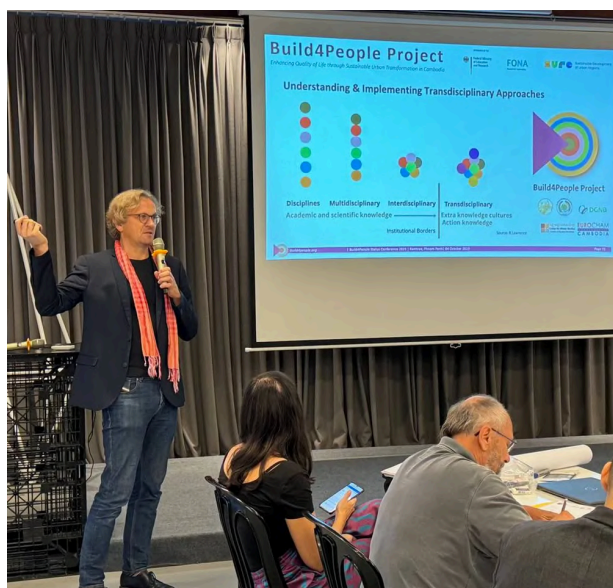
Last but not least, we would like to express our deep gratitude to the German ambassador Stephan Messerer for inviting us to this important event.

Build4People Status Conference 2023 at Raintree, Phnom Penh

On 04 October 2023, the German and Cambodian Build4People team members and some students gathered at the Canopy Layer of Raintree Cambodia in Phnom Penh.



The Build4People Status Conference had two key objectives. Firstly, it was about the presentation and discussion of the collective research results of the Build4People Work Packages to the whole team after about the half of the current RD funding phase. Thereby, it was also reviewed how the Build4People team can jointly organise themselves in a better way, in the future. Secondly, it was about the presentation of an outlook of the activities of the Build4People Work Packages till the end of the funding phase and the presentation of first ideas in regard of implementation.



Apart from individual Work Package presentations, there was extensive room for discussion how to achieve more transdisciplinary integration by collaborative instruments and tangible products. Among others, it was discussed about the lessons learned from the past three Build4People Ecocity Transition Labs held in 2020, 2022, and in 2023. Based on this there was an intense discussion how to strategically plan the ECTL 2024 scheduled for early March 2024 and how to prepare for other activities till the end of the current RD phase expected for mid 2025.

Another important point of discussion was a key integrative product of the Build4People project, the so-called PPCH B4P TRANSFORMATION TOOLBOX. Its main aim is to analyze, plan, implement and monitor strategies for healthy, smart and sustainable neighbourhood development for different stakeholders in Cambodia.



It will also comprise of a set strategies and early-stage planning criteria for sustainable neighbourhood, among others, but also get complemented by tangible physical products like the envisaged first Cambodian Handbook for Green Housing and Urban Quality of Life.

 **YouTube** [Link to YouTube video clip documentation of the Build4People Status Conference 2023](#)

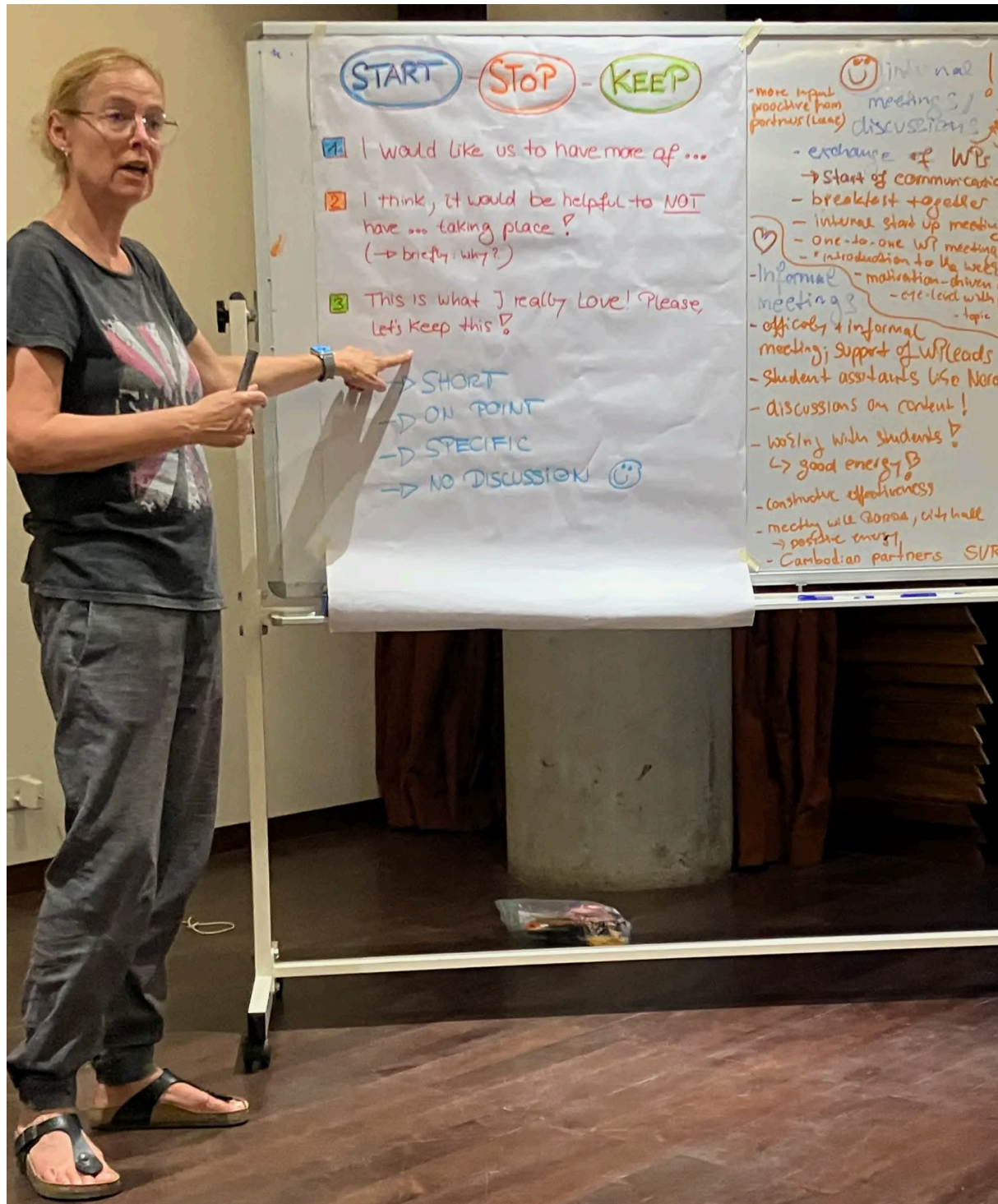
Start-Stop-Keep – the Build4People team took a three-part teamwork reflection at the end of a busy week in Phnom Penh

On 05 October 2023, the Build4People team did their usual wrap-up meeting after another busy and fruitful on-site phase in Phnom Penh.

All Build4People members gave a review of the teamwork according to the “Start-Stop-Keep” method.

To run an effective feedback process, you need the right questions, active listening and the basic open-mindedness of all team members.

Regardless of whether things are not going so well in a project or whether the project is currently very successful, a structured feedback method with open questions can help in both cases: to learn from failures but also to help stabilize successful paths.



“Start-Stop-Keep” is just one of many ways to use formalized feedback for team improvement, but in our case we found it particularly effective and straightforward.

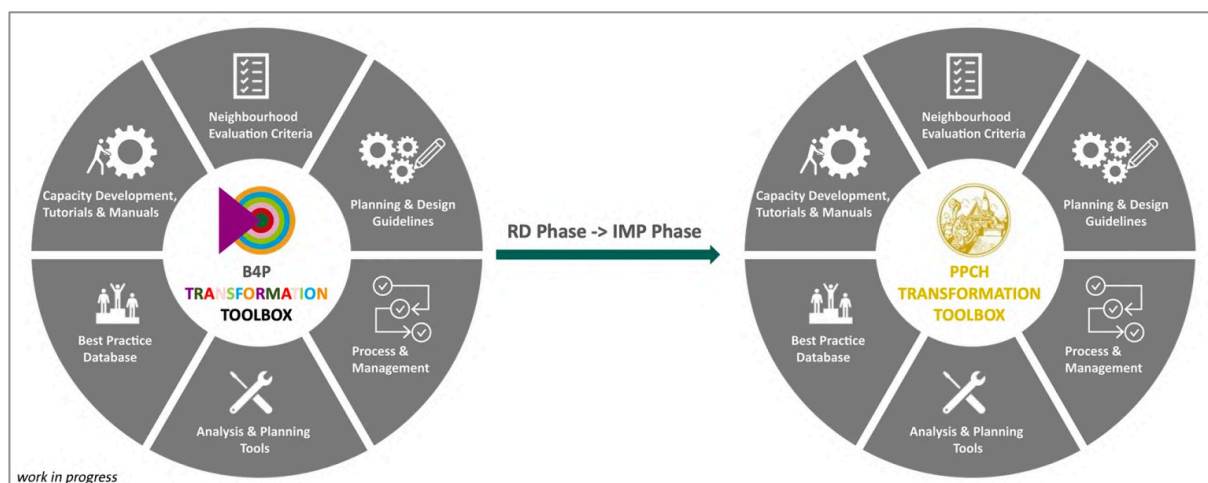
Successful Technical Meeting at Phnom Penh City Hall to introduce about the “PPCH-B4P Transformation Toolbox”

On 06 October 2023, a successful technical meeting took place at Phnom Penh City Hall in the presence of HE Nuon Pharat, Vice-Governor of Phnom Penh Capital Administration.



The main aim of this meeting was to introduce about the final integrative product of the Build4People project, the so-called “PPCH-B4P Transformation Toolbox”, which for the time being is still work in progress. Basically, it is meant as a living set of various tools to design, implement and evaluate integrated and participatory actions with the key objective to facilitate attractive, well functioning sustainable and healthy neighbourhoods.

In this way, the proposed PPCH-B4P-TRANSFORMATION TOOLBOX aims to provide criteria, guidelines and tools to different stakeholders to support the application of goals and strategies for sustainable neighbourhood development in Cambodia.



A web-/ app-based solution of the toolbox is planned for envisaged B4P Implementation phase (2025-2027).

Besides the elaboration on planning and design guidelines, among others, the proposed toolbox will also contain tangible spin-off products, for example the first “Cambodian Handbook for Green Housing and Well-Being” based on a similar product developed by Hamburg University within the BMBF-CLIENT-II-project CAMaRSEC in regard of the Vietnamese context. During our technical meeting a hard copy of this handbook was handed over to Mrs. Tema Vichekal, Deputy Chief of Administration at Phnom Penh City Hall.



 **YouTube** [Link to YouTube video clip documentation of the Build4People Technical Meeting with PPCH at Build4People](#)

Successful Workshop about “Accessibility Design” Workshop as a result of joint collaboration of Build4People Work Package “Sustainable Building” and Future Forum Cambodia

On 08 October 2023, the Build4People Work Package “Sustainable Building” together with Future Forum Cambodia organized a workshop about “Accessibility Design” at the campus of the Institute of Technology Cambodia (ITC).



The rationale behind the workshop was UN Habitat’s goal to provide access to safe, affordable, accessible and sustainable spaces as key to implement its Sustainable Development Goals (SDGs) for cities. In this context, the specific needs of people with disabilities should be considered at the starting point and central component rather than afterthoughts in SDGs implementation. This leaves stakeholders and planners worldwide with open questions as to what constitutes barriers in buildings and public spaces, how can accessibility be implemented and how can it be connected to other SDGs.

In Germany, existing policies outline a basic framework and explain how to integrate accessibility planning and barrier-free building into planning and implementation processes with the aim of autonomous living for all. In Cambodia, the Technical Standards on Physical Accessibility Infrastructure for Persons with Disabilities have been in place since 2018. Based on those policies as a starting point and on the specific accessibility needs of people with motoric or cognitive impairments, young children, families with infants, the elderly, etc.) we attempted to develop design solutions for an easy use and access for all.

As part of our workshop we visited the Institute of Technology of Cambodia (ITC), a public campus in Phnom Penh where the buildings, classrooms, as well as the sanitary facilities and the various public spaces (cafes, gardens, etc.) where the participants were asked to identify and record barriers in the different campus areas.

The whole campus was divided in 5 areas of interest, according to this grouping students formed 5 small groups and after a short introduction on accessibility issues and the rationale of the workshop they were sent to inspect the areas and catalogue the barriers according to type, location, affected groups and urgency of improvement.

After each group surveyed their according area, the groups gathered all together and had a discussion about their most important findings. Then we headed to Future Forum offices.

After the lunch break the second session of the workshop continued with three short presentations. First Christina Karagianni from WP2 gave an introduction for the second session and explained some more details regarding the purposes of the Workshop. She gave an insight to what Build4People team and the people of WP2 sustainable Building in particular are doing. Therefore, she also introduced the Cambodian students to DGNB's Sustainability Approach.

Christina's presentation was followed by an input from Ses Aronksada and Leakhena Seta, two local Cambodian architects. They gave an overview of the state of accessibility in Phnom Penh and showed how they want to improve the quality of life in the city. Their work is based on the thought that a lot of problems the capital of Cambodia is facing are already known, but that there still is a lack of knowledge on how to specifically develop sustainable solutions. Therefore, their approach is to deliver best practice design proposals that could have a significant impact on future developments and to implement measures to make Phnom Penh more accessible.

Then Philipp Alt, BA student at Technical School of Applied Sciences Lübeck, and co-organizer of the Workshop continued with further information regarding Accessible Design. He elaborated that usually when people start thinking about barriers, they primarily have wheelchair users in mind. Consequently, he shed a light on other senses that should be thought of while designing the built environment. He also gave an Insight to the wide range of abilities and gave the audience examples from his experience in working with disabled children. Philipp then briefly introduced the 7 principles of Universal Design in order to give the students some guidance that was meant to help them develop their own accessible design proposals for different parts of the ITC Campus.

The 5 groups assembled again and started to discuss many ideas for improving. They brain stormed and used sticky notes to organize their thoughts. Using transparent paper and the printed out map many students drew sketches of their proposals. They did that with great engagement and took part in lively discussions in their groups. After every team developed one or more key proposals all participants came together.

Presentations were held, the students shared what they've worked on and explained their thought process. They came up with creative solutions that could really improve the campus and seemed like they would really enjoy to give the topic more thought in the future.

We concluded the workshop by assembling the whole campus map by the individual campus areas the group have worked on and after the official end of the workshop many bi-lateral and small group discussions continued showing the strong engagement amongst the participants.

The Build4People WP#2 team would like to kindly thank ITC for letting us use their campus as a case for this study and Future Forum for the excellent collaboration and co-organisation of such a meaningful event.

Insights into empirical research of Build4People Work Package “Behaviour Change”: Semi-structured interviews to find out about drivers and barriers for sustainable investment behavior

On 11 October 2023, the Build4People Work-Package #1 “Behaviour Change” led by Magdeburg University conducted semi-structured interviews in the facilities of Royal University Phnom Penh (RUPP). The main intention of this empirical research was to learn more about the beliefs and attitudes the city’s inhabitants hold about the installation of solar panels on private household’s roofs.



More specifically, the goal of the interviews was to get a better understanding about drivers motivating people to invest in rooftop solar and, on the contrary, barriers hindering people from doing so. Thereby, the perspective of the urban upper and middle class (the so-called “new consumers”) was of particular interest, as this segment of Phnom Penh’s population can be assumed to be rather capable to invest in rooftop solar than people with less financial capacity.

This research step is embedded in one of Build4People Work-Package #1 (WP#1) sub-aims, i.e. to develop an understanding for the main drivers and barriers for sustainable behaviours of the “new consumers” in Phnom Penh.

On a structural level, the interviews were organized by the local WP#1 research partners Dr. Sok Serey and Dr. Op Vanna (both RUPP) while the interviews themselves were conducted by the research associate Mr. Andreas Deuss (University of Magdeburg). In addition, WP#1 was supported by Mr. Thou Punleu and Mrs. Duong Pagna, a graduate assistant and a student assistant of RUPP respectively, for organizational matters and the translation from Khmer to English and vice versa. In terms of interview preparation, Mr. Deuss was in exchange with the civil society organisation *EnergyLab Cambodia* to learn more about the policy framework concerning rooftop solar in Cambodia. In total, five interviewees took part in the interview session.

Thanks to the support of Dr. Sok Serey and Dr. Op Vanna the participants were acquired beforehand and were informed that the interview would be about their opinion on different aspects of rooftop solar. Special attention was put on selecting only people belonging to the social group of the new consumers.

During the interviews, great importance was attached to creating a comfortable and calm atmosphere, so that the participants could forget about the potential artificial character sometimes created by interviews. To keep open the opportunity for deepening the conversation if needed, a semi-structured interview approach was chosen.

The information gathered through the interviews was very valuable, as several drivers and barriers for the investment behaviour could be identified, among others the environmental benefit of rooftop solar (driver) or the high costs associated with the investment (barrier).

The results will also serve as a base for further research conducted by WP#1, i.e. an online survey aiming to identify drivers and barriers for investment in rooftop solar within a bigger, more representative sample. These important insights form the basis to develop tailored concepts for fostering sustainable behaviour, a crucial step with regard to urban transformation and the overall aim of the Build4People-project to enhance urban quality of life for the people in Phnom Penh.



The team of WP#1 would like to thank everybody involved in the interviews. Special thanks go to the five interviewees who declared their willingness to take part in the interview-process.