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Integrating education with consumer behaviour relevant to energy efficiency and climate change at the Universities of Russia, Sri Lanka and Bangladesh (BECK)

Partner report on current state of higher education and its relationship with consumers' behaviour on energy efficiency and climate change

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1 INTRODUCTION

The purpose of this series of country reports is to obtain general philosophical, pedagogical and practical understanding on the status of higher education and its impact on consumer behaviour relevant to energy efficiency and climate change in BECK partner and European partner countries. It will also provide a basis for understanding and evaluating the capabilities of partner institutions on integrated education for energy efficiency and climate change. The results of these reports will inform a capacity building framework, which will form the basis for development of modules on energy efficiency and climate change during the BECK project.

The reporting approach is based on the Capacity Needs Assessment Methodology (CAPNAM) proposed by the United Nations (2013).

The report includes chapters on the following:

- Methodology. This section describes the methodological approach used to collect and analyse the data that informs the findings presented in this report.
- Context. Provides an overview of the regulatory, socio-political, and cultural factors that shape policy on the consumer behaviour relevant to energy efficiency and climate change in the country in general, and education in particular.
- Scope and coverage of education policies on consumer behaviour relevant to energy efficiency and climate change by the Higher Education Institution (HEI). Examines the illustrative policy and planning issues relevant to integrated education on consumer behaviour relevant to energy efficiency and climate change.
- Description of capacity types. Evaluates the existing state of capacities of HEI in the field of integrated education on consumer behaviour relevant to energy efficiency and climate change. As defined by the CAPNAM analytical framework, the four types of categories are institutional, organisational, individual, and the knowledge base.

2 Methodology

Please describe the methodological approach used to collect and analyse the data that informs the findings presented in this report. For example, this may include focus groups, interviews, document reviews and literature reviews.

With the intention of gathering data for the report, a number of tools were utilized by the partner institution. This included a mixed method where both primary and secondary data were gathered. As primary data, structured interviews were carried out with varied individuals such as academics, field experts and administrative personnel capturing both the academic and administrative strands of the institution.

When focusing on the academic staff interviewed, this included experts in the fields of energy efficiency, consumer behavior and climatic change of the different faculties of the institution including the Faculty of Arts, Faculty of Science and the Faculty of Management. In addition, administrative personnel were interviewed from the International office of the University of Colombo, Academic and Publications branch and the Virtual Campus. The total number of interviewees was ten staff members of the institution.

In addition, data was also gathered through secondary sources through documentary reviews and literature reviews of university records, statistics, funding criterion, websites related to ministries, etc.

3 CONTEXT

This section provides an overview of the regulatory, socio-political, and cultural factors thatshape policy on the consumer behaviour relevant to energy efficiency and climate change in the country in general, and the education in particular. Please answer following questions.

3.1 Socio-political and cultural context

What are the socio-political and cultural contexts providing the framework for educational policy planning in the field of consumer behaviour relevant to energy efficiency and climate change in the country? Are there any regulations, plans, etc.?

In the Sri Lankan context, much emphasis is placed on the need to promote Energy Efficiency and reduce detrimental Climatic Change that mainly stem from socio-political and legal arenas. Many institutions have taken steps towards this endeavor with the assistance of the Sri Lankan government. At national level, the Sri Lankan government is a signatory of many treaties such as the United Nations Framework Convention on Climatic Change (UNFCC), Kyoto Protocol (1993-2002) and the Paris Agreement since 2016. With the support of the Ministry of Mahaweli Development and Environment, the country has launched Environmental circulars such as the 'Blue Green Beautiful Lanka Villages' according to Circular 02/2016 in collaboration with community organizations and movements such as the SANASA and Sarvodaya movements. This aims to achieve sustainable economic development, ensure environemntal sustainability, ensure social development and equality, and individual development. There have also been initiatives to improve energy efficinecy launched by the Ministry of Power to implement nationalwide porgrammes to expand solar energy. The programme aims to sensitize the public about conscious energy usage practices and have launched many campaigns to promote the inititaive.

In addition, many policies have been implemented over the years to promote Energy Efficiency. For instance, the formulation of a National Climate Change Policy (NCCP) in collaboration with UNDP by the Ministry of Environment in 2012 recognizes the need of implementing strategies for climate change mitigation, technology transfer, financing and investment mechanism, education, training and awareness, monitoring, assessment and management of impact risks due to climate change through a new policy. The importance given by the National Climatic Change Policy to education, training and awareness no doubt influences the Educational Policy Framework already exisitng in the country. Moreover, the National Climate Change Adaptation Strategy implementedin Sri Lanka from the year 2011 to 2016 also attempted to provide solutions to Climate Change by focusing on stimulating stakeholder interest and setting up of initiatives to identify Climate Change risks and adaptation measures. In the year 2016, another inititaive named the 'Blue-Green Era' was launched in order to promote Sustainable Development through sustainable consumption and production. The blue was symbolic of the enhanced innovative approaches for sustainable growth in oceanic economy comprised of coastal and marine resources while the green was symbolic of the grren economy that would lead to urban and rural development. The pilot project was developed by the

Ministry of Mahaweli Development and Environment in collaboration with the UNDP with the funding og the Global Environmental Facility and the Government of Sri Lanka for a period of five years. The project aimed to improve the country capacity to manage environmetally sensitive areas. Developing climate literacy was a key strategy of this initiative leading to efficient usage of energy and sustainable consumtpion practices. As part of this a conference on Sri Lankan NEXT: A Blue-Green Era was launched with the aim of bridging the gap between policy and practice. These intitaives adopted by the Sri Lankan government shapes the socio-political and cultural landscape in which eductaional policies are developed.

3.2 Status of education

What is the current state in education on consumer behaviour relevant to energy efficiency and climate change? Is it important at your country? Please specify.

The significance attributed to education on consumer behavior relevant to Energy Efficiency and Climate Change is visible through National Institutions, Agencies, Policies and Strategies that have existed and continue to exist in Sri Lanka. For instance, according to Millenium Development Goals, one of the key goals for Sri Lanka was to ensure environmental sustainability through integrating principles of sustainable development into country policies and programmes and reversing the loss of environmental resources. As part of this healthy patterns of consumption of natural resources and energy efficinecy were prioritized. In addition, when focusing on the position of Sri Lanka in the adherence to the Sustainable Development Goals since 2012, there is much emphasis on responsible consumption and production, climate action and affordable and clean energy echoed through three of the seventeen goals. The establishment and function of the Climate Change Policy Network in Sri Lanka, National Climate Change Adaptation Strategy, Environmental Education Unit of the Central Environmental Authority and Climate Change Secretariat Sri Lanka under the Ministry of Mahaweli Development & Environment also operate on par to bring about a positive sustainable change to Sri Lanka.

When focusing on the emphasis given to consumer behaviour relevant to Energy Efficiency and Climate Change in education, examples can be drawn from the Tertiary Educational landscape of Sri Lanka. For example, the University of Colombo offers a number of diploma, degree and postgraduate programmes such as the Post graduate diploma in Climate Change and Environmental Management (offered by the Department of Zoology; Faculty of Science), Environmental Sociology (offered by the Department of Sociology), Past Climate and Climatic Change and Urban Environment and Management (offered by the Department of Geography) in the Bachelor of Arts and Post graduate diploma in Environmental Management and Master of Environment Management (offered by the Faculty of Graduate Studies). The Institute of Human Resource Advancement (IHRA) attached to the University of Colombo also offers postgraduate courses in Disaster Analysis Management and Mitigation. The University of Moratuwa offers a Masters Degree/ Postgraduate Diploma in Environmental Management while the Open University of Colombo offers short courses on Enivironmental Impact Assessmentin addition to Diplomas, Degrees and Masters programmes in Environmental Sciences. The programmes offered in various educational institutions highlight the importance given to the field in Sri Lanka

and the rising numbers of student enrolment reveals that the field remains one of the most preferred disciplines both in Sri Lanka and across the globe.

3.3 Funding

Is funding sufficient for integrated education on consumer behaviour relevant to energy efficiency and climate change at your country? Please specify.

While many International Organizations (such as the United Nations) have provided various institutions with funding to promote Integrated Education on Consumer Behaviour relevant to Energy Efficiency and Climate Change, there remains a distinct gap between the funds available and the lack of climate and energy literacy among the people, as most funds cater to key institutions, polarizing the funds around a few, resulting in others experiencing lack of opportunities and infrastructure to promote integrated education.

3.4 Educational needs

What are the needs in integrated education on consumer behaviour relevant to energy efficiency and climate change (please list up to 5 major needs at country level):

Based on the initiatives, policies and strategies adopted in Sri Lanka, some of the key needs at the country level are as follows.

- More scientific knowledge.
- Need of identifying research on Climate Change as a key field rather than a supplementary field.
- Establishing a strong network among various stakeholders.
- More involvement of Educational and Research Agencies on research that focus on the physical and socio-economic dimensions of Climate Change and Energy Efficiency.

3.5 Educational gaps

What are the gaps in integrated education on consumer behaviour relevant to energy efficiency and climate change (please list up to 5 major gaps at country level):

- Lack of expertise and Scientific Knowledge.
- Lack of research on Climate Change.
- Lack of networking among key stakeholders.
- Lack of prioritization of Climate Change and Energy Efficiency by Education and Research Institutions.

4 POLICIES RELEVENT TO HIGHER EDUCATION, AND THEIR RELATIONSHIP WITH CONSUMER BEHAVIOUR ON ENERGY EFFICIENCY AND CLIMATE CHANGE

This section examines the illustrative policy and planning issues relevant to integrated educationon consumer behaviour relevant to energy efficiency and climate change. Please answer following questions.

4.1 Policy and planning

Please describe policy and planning issues currently being addressed by the HEI in the field of integrated education on consumer behaviour relevant to energy efficiency and climate change.

As mentioned earlier, there are a number of educational programmes on Consumer Behaviour relevant to Energy Efficiency and Climate Change in the University of Colombo both for undergraduates as well as for postgraduates. Through these programmes and by research carried out centering these educational endeavors, a number of issues both at policy level and implementation are addressed. For instance, in the course on Environmental Sociology which is taught as part of the Bachelor of Arts Degree, undergraduates are exposed to the social dimensions of environmental issues. These range from daily consumption practices of people which contribute negatively to climate change to after-effects of disasters and promoting resilience. In addition, in programmes such as the postgraduate diploma in Environmental Management offered by the Faculty of Graduate Studies, the overall issue of climate change as a major global environmental concern, anthropogenic causes and impacts of climate change are included to enable learning opportunities about the strategies and application of remedial measures in addressing climate change, including international cooperation and national efforts in mitigation and adaptation. Simultaneously, the Master of Enviornment Management exlpores new trends in the global environment movement with emphasis on ecosystem services and their economic valuation, appreciation of economics of ecosystems and biodiversity.

4.2 Gaps in policy and planning

Please describe other, if any, policy issues that are not currently being handled by the HEI but should be considered.

N/A

N.B. The responses to these questions do NOT require describing each policy and planning issue but only the identification of the type of issues being addressed and those not being addressed. The questions are only meant to understand the scope of coverage of important issues by the HEI.

5 CAPACITY TYPES

This section aims at assessment of the existing state of capacities in the HEI for integrated education on consumer behaviour relevant to energy efficiency and climate change. As defined by the CAPNAM analytical framework, the four types of categories are institutional, organizational, individual, and the knowledge base.

5.1 Institutional capacities

This part describes the institutional capacities at HEI level. Please answer following questions.

1. Please provide brief presentation of the HEI.

University of Colombo (UoC) is the oldest University in Sri Lanka and its International Unit is responsible for its internationalisation strategy. UoC is internationally recognized for students. It also encourages staff to enhance their capacities to conduct internationally collaborative research and publish internationally. Academics in various disciplines engage in high quality research of local and international relevance. Details of ongoing research and publications are made available on websites of the different faculties and institutes. Research among students is also encouraged. The first Annual Research Symposium held in 2008 provided an opportunity for students to present their research findings to the scientific community in Sri Lanka with the participation of staff and students from all faculties. The main objective of the Annual Research Symposium is to disseminate new knowledge acquired through research conducted by the academic community of the University. The symposium also promotes healthy interaction between the Faculties and Institutes of the University of Colombo.

2. Please describe general model of studies according to different levels (bachelor, master, PhD).

Generally, the key mode of studies in the Bachelors, Masters and PhD programs include traditional forms of teaching and learning although MOODLE platforms are created in the Bachelors level to assist the teaching and learning process as a supplementary learning platform. In addition to this, the University of Colombo established a Virtual Center in 2016 with the objective of promoting open and distance learning models for external degree students. The center aims to create a virtual campus with the mission of facilitating expanded higher education through extension, distance, and blended courses using advanced technology, thereby contributing to national development. At the moment, a number of degree programmes are offered to external students via such models. They are Bachelor of Science in Electronics & Automation Technologies, Bachelor of Science in Financial Engineering and Bachelor of Information Technology. Based on the interviews conducted with the administrative staff of the Virtual Center it was highlighted that the university wishes to expand this further by providing completely online platforms for undergraduate and postgraduate students.

3. Please provide key facts and figures about the HEI:

3.1. Number of students: 25000

3.2. Number of academic staff: 700

3.3. Student/Academic staff ratio: 35:1

3.4. Number of Faculties (please specify): Nine faculties – Arts, Education, Law, Management and Finance, Medicine, Science, Technology and Nursing

3.5. Number of graduates: 2633

3.6. Number of study programmes: 185

3.7. Number of international academic partners: 76

3.8. International rankings of the HEI (if any): 2223

4. Please describe main education and research areas of the HEI.

The University of Colombo offers Bachelor's degrees, Masters Degrees, Master in Philosophy and Doctor of Philosophy to undergraduate and postgraduate students on various disciplines in the faculties of Arts, Education, Law, Management and Finance, Medicine, Science, Technology and Nursing. The research interests of the university are mainly in line with the programmes offered by the faculties and tend to be extremely diverse. According to the 2019 research grant scheme, the prioritized research areas stem from Agro-technology, Basic Sciences, Biotechnology, Computer Science & Information Technology, Energy, Engineering Sciences & Architecture, Environmental Sciences, Natural Resources & Biodiversity, Food Sciences, Geology & Earth Sciences, Health Sciences, Nanotechnology, Nursing, Library & Information Science, Social Sciences, Science Education, Science & Technology Policy Studies and Technology.

5. Is there any strategic priorities given to integrated education on consumer behaviour relevant to energy efficiency and climate change at HEI level? Please specify.

No

6. What are the needs at HEI in integrated education on consumer behaviour relevant to energy efficiency and climate change (please list up to five major needs):

- New knowledge, expertise and training
- Platforms for conducting research
- Funding prioritizing the different facets of consumer behaviour relevant to energy efficiency and climate change
- Academic opportunities and awareness building

7. What are the gaps at HEI in integrated education on consumer behaviour relevant to energy efficiency and climate change (please list up to five major gaps):

- Lack of funding

- Lack of courses designed particularly to cater to consumer behaviour relevant to energy efficiency and climate change
- Lack of experts specializing in consumer behaviour relevant to energy efficiency and climate change

5.2 Organisational capacities

This part describes the organisational capacities pertinent to integrated education on consumer behaviour relevant to energy efficiency and climate change at HEI. Please answer following questions.

1. Is integrated education on consumer behaviour relevant to energy efficiency and climate change sufficiently included in the curricula of HEI? Please specify according to different levels (bachelor, master, PhD):

No, while there are a number of courses integrated in academic programmes within the university in Bachelors and Masters level, these tend to focus on a wide variety of issues related to energy efficiency and climatic changes and fail to address the role of consumer behavior. Examples can be drawn from courses such as the Post graduate diploma in Climate Change and Environmental Management (offered by the Department of Zoology; Faculty of Science), Environmental Sociology (offered by the Department of Sociology), Past Climate and Climatic Change and Urban Environment and Management (offered by the Department of Geography)in the Bachelor of Arts and Post graduate diploma in Environmental Management and the postgraduate courses in Disaster Analysis Management and Mitigation.

1.1. Study programme level (Please list relevant study programmes):

- Bachelor of Arts
- Postgraduate Diploma in Environmental Management
- Postgraduate Diploma in Climate Change and Environmental Management
- Master of Environment Management

1.2. Study subject level (Please list relevant study subjects/modules):

- Bachelor of Arts (Sociology) – Sociology of Environment and Disaster Management, Urban Development and Relocation
- Bachelor of Arts (Geography) - Past Climates & Climatic Changes, Environmental Pollution & Planning
- Postgraduate Diploma in Environmental Management – Natural Hazards and Management, Environmental Management and Sustainable Development

- Master of Environment Management - State Policies and their Implications on Environment, Global Environmental Issues and their Implications, Climate Change Impacts, Mitigation and Adaptation

2. Is funding sufficient for integrated education on consumer behaviour relevant to energy efficiency and climate change at HEI? Please specify.

No, while there a number of funding schemes in the university that address varied issues in the local and global contexts, the topic at hand is not considered as a priority and is only discussed in relation to climatic change and energy efficiency.

3. What are the needs at HEI in integrated education on consumer behaviour relevant to energy efficiency and climate change related to organization of study process (please list up to five major needs):

- Approval to offer courses on the topic from tertiary educational bodies and committees within the university and the University Grants Commission
- Clear university rules and regulations to offer courses to all internal and external students
- Costs attached to offering and maintaining the course
- Online Platforms to offer the programme
- Technical knowledge for organization of MOOCs

6. Please list up to five major gaps in integrated education on consumer behaviour relevant to energy efficiency and climate change related to organization of study process:

- Lack of rules and regulations to offer courses to all internal and external students (At the present, this is not possible as the university does not consist of a legal framework to implement and offer courses via the virtual campus)
- Lack of funds to offer courses without running the risk of loss due to financial requirements set by the university
- Lack of online platforms (The virtual campus of the university merely coordinates programmes and does not have the online platforms to run the programmes)
- Lack of technical knowledge and expertise
- Lack of modern, up to date resources

5.3 Individual capacities: Staff skills

This part describes the individual staff capacities pertinent to integrated education on consumer behaviour relevant to energy efficiency and climate change at HEI. Please answer following questions.

1. How many academic staff works at your unit? (Which implements the project): 05

2. Is there sufficient number of teachers who specialise in integrated education on consumer behaviour relevant to energy efficiency and climate change? How many?

2.1. At university level: 05

2.2. At your unit/department: 02

3. Is there sufficient number of researchers who specialise in consumer behaviour relevant to energy efficiency and climate change? How many? No, the numbers are insufficient.

3.1. At university level: 05

3.2. At your unit/department: 02

4. Please describe the current state of the staff training in HEI. Is it sufficient?

No, in most of the undergraduate courses (due to the large number of student population), the staff face difficulties in the teaching and learning process mainly in relation to conducting lectures, marking, monitoring and supervision. However, the university consists of a Staff Development Center (SDC) that provides training to staff members of different levels on random areas related mainly to teaching, learning and assessment.

5. Please describe the current state of the staff training on consumer behaviour relevant to energy efficiency and climate change. Is it sufficient?

No it is insufficient as the staff lacks training on consumer behaviour relevant to energy efficiency and climate change.

6. Does the academic staff have flexibility in designing its own skill development plans or does it have to follow a centrally determined package?

The university provides ample space for the academic staff to develop their own skills and the academic staff are rarely confined to a centrally determined package. In addition, the Staff Development Center provides the academic staff with knowledge, techniques and training in skill development.

7. Is there staff stability, or does it suffer from high turnover among such professionals?

There is staff stability.

8. What staff skills are required for integrated education on consumer behaviour relevant to energy efficiency and climate change (please list up to five major needs):

- Academic expertise
- Training and pedagogic practice in integrated education on consumer behaviour relevant to energy efficiency and climate change
- Research opportunities

9. Please list up to five major gaps in integrated education on consumer behaviour relevant to energy efficiency and climate change related to staff skills:

- Lack of modern academic and technical expertise.
- Lack of research opportunities and frameworks (Due to time and financial constraints)
- International collaborations and networking.
- Lack of necessary software and physical equipment.

5.4 Access to Information, Knowledge and Technology

Access to information, knowledge and technology is becoming increasingly critical for sustaining long-term growth and development of education. It relates to the capacity to enable academic staff and students to mobilize, access and use information and knowledge, including access to and effective use of internet. Please answer following questions.

1. Do students and teachers have access to the novel educational resources on consumer behaviour relevant to energy efficiency and climate change? Please specify:

1.1. Printed learning materials in national language: Partly provided

1.2. Printed learning materials in English or other languages: Yes

1.3. Online learning materials (open-source videos, simulators (calculators and software), case studies, text material) in national language: Yes

1.4. Online learning materials (open-source videos, simulators (calculators and software), case studies, text material) in English or other language: Yes

2. Does HEI use MOODLE for educational purposes? Yes

3. Does HEI use computer-based intelligent systems, MOOCs, computer learning systems, big data mining for educational purposes? Please specify:

Yes, Computer learning management systems, MOOCS, and MOODLE platforms are utilized for undergraduate and postgraduate courses by all faculties of the university. For example, in the Faculty of Arts, all undergraduate courses are supplemented with a MOODLE platform which facilitates student learning and increase teacher student interaction. In addition, the MOODLE platform is also utilized for the implementation of alternative assessments in undergraduate courses.

4. Does HEI use software for integrated education on consumer behaviour relevant to energy efficiency and climate change? Please specify:

No

5. What Information/Knowledge/Technology is required for integrated education on consumer behaviour relevant to energy efficiency and climate change (please list up to five major needs):

- Technical and academic knowledge in the field of Consumer Behaviour relevant to Energy Efficiency and Climate Change.
- Research expertise.
- Technological equipment.
- Network among key stakeholders.
- Awareness raising

6. Please list up to five major gaps in access to information, knowledge and technology pertinent to integrated education on consumer behaviour relevant to energy efficiency and climate change:

- Lack of technical capacity
- An organized approach and framework for knowledge and research contribution.
- Lack of manpower.
- Lack of educational policy frameworks.
- Lack of finances to sustain knowledge building and dissemination