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## 2. About the Project

The main goal of the project is to mainstream sustainable development ideas and sustainability science into education and research in Pharos university, with tuning of academic functions, including “the changing of paradigm from industry-market driven research and learning process to the one that is backboneed by sustainability. The specific objectives are:

- Developing new approaches and methodologies of teaching and education at all levels must be developed in the field of sustainability science.
- Exploring research and education practices at Pharos university and infuse the Sustainability science component
- Moving sustainability knowledge into actions across full range of scaled of disciplines, and
- create learning opportunities for students, and practitioners in the field of sustainability to meet the need required to comprehensively address sustainable development as a new way of running the university.

In literature, the Key characteristics of a sustainable university are:

- Transformative education rather than merely transmissive education to prepare students capable of addressing complex sustainability challenges.
- Rather than being a one-way process of learning, it must be more interactive and learner-centric with a strong emphasis on critical thinking ability (Sterling, 2005; Wals and Corcoran, 2006).
- A strong emphasis on effectively conducting inter and transdisciplinary research and science (see, e.g. Max Neef, 2005; Van Dam, 2006).
- Societal problem-solving orientation in education and research through an interaction through multiple interfaces to be pertinent to societal goals. As a result, students must be able to deal with the complexities of real problems and the uncertainties associated with the future.
- Networks that can tap into varied expertise around the campus to efficiently and meaningfully share resources.
- Leadership and vision that promotes needed change accompanied by proper assignment of responsibility and rewards, who are committed to a long-term transformation of the university and are willing to be responsive to society's changing needs (Lozano, 2006).

According to the above, the project “Sustainability Transformations In Pharos University” focuses on awareness of sustainability and sustainability science , use of Education for Sustainable Development (ESD) as a tool for new teaching and learning delivery mechanisms, a diffusion of channels to market, and stakeholder expectations for increased impact and implementing sustainability in research areas of combined perspectives e.g. innovation and social-ecological-technological systems interactions, patterns of transformation, and change agents for transformation. Education for sustainable development has to do with not only scientific

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knowledge but also is aligned with the development of personal and social aptitudes leading to responsible citizenship.

The project recognizes that higher education must do more than simply pay 'lip service' to sustainable development and should focus more on learning on issues of relevance facing society. As this is heavily interdisciplinary and related to values, there is a need to re-examine the goals of higher education with the sustainable development goals with emphasis on goal "quality education".

For fulfilling the above goals, the project is planned to be implemented in 3 phases, which are:

Phase 1. Awareness phase:

This phase focuses on an awareness and campaigning process which is required to comprehensively address sustainable development through series of lectures and workshops (See [Appendix 1](#) for details)

that allow some restructuring of the academic functions and learning process such that the education become culturally appropriate and locally relevant. It also includes designing educational contents and methods which the learner should acquire.

This phase will be implemented throughout the academic term of the university in the form of series of interactive lectures and workshops

Phase 2. Preparation phase.

The second phase is aimed at developing the scientific and educational base necessary to address key environment and sustainable development priorities, including ecosystems management; climate change adaptation; management of the world's freshwater and marine resources; and responses to disasters and risks, sustainable energy sources, green cities, etc. In this phase formulation of focal groups from each faculty ([Appendix 2](#)) were identified to work on evaluating the sustainable development content of curricula in each faculty using different tools available, followed by mainstreaming sustainable development and sustainability science in the curricula. The time allocated for this phase is 6 months.

Phase 3. Sustainability in practice.

This third phase focuses on the implementation of a change project for sustainable development in practice articulating a global vision in local terms. This phase addresses sustainable development goals and ways towards their achievements through small case projects in the different faculties of Pharos University. It will be implemented by students and young researchers to demonstrate Institutional development activities (e.g. policy development / green campus development / student initiatives etc.)

The time allocated for this phase is 12 months

This report puts forward points of view of each of the faculty members from the focal group that has participated in the project and addresses concerns in science education.