**SUSTAINABILITY OF PLANET AQUA**

*Professor Sirin Tekinay, former GEDC Chair*

It is globally ever more urgent to re-invent higher education systems in order to solve multi-disciplinary problems and offer innovations towards end-to-end designs, if we are to meet the Sustainable Development Goals (SDGs) before doom. Here is a basic example of how our segmented view of the world and artificial borders between countries, disciplines, or institutions are standing in the way.

We, humans of this planet, have misnamed our home as "Earth," understandably because we are land mammals. A more appropriate name for our planet would arguably be "Aqua." 71 per cent of our planet is covered with water. The oceans hold 96.5 per cent of all water, then there are lakes, reservoirs, streams, wetlands, and groundwater. Oceans and inland waters look so vast to our limited human perception that, until recently, we thought and acted as though they were endless. That's our blue planet at a first glance from space. However, although most of the planet is colored blue, water is a scarce substance, accounting for only 0.05 per cent of the planet's total mass. Nevertheless, water is the reason for life. No wonder water is arguably subject matter, or relative to, all of the Sustainable Development Goals (SDGs); i.e., the conditions for continuation of life on our planet. Life on our planet has started and flourished thanks to the stability of climate at a balance that cultivated and nourished it. The current human-made climate change is dramatic enough to throw life off balance, compared to the small variations the balance has withstood. Increasing the amounts of greenhouse gases is likely to result in an imbalance that may be impossible to re-stabilize.

Let us remember the widely accepted vision statement of engineering (originally formulated by the United States National Academy of Engineering): "continuation of life on the planet, making our world more sustainable, secure, healthy, and joyful." Engineers bear the main part of the responsibility to achieve the sustainable development goals. The GEDC was inaugurated in 2008 with these considerations. "Peace Engineering" was rolled out as a global thrust at the tenth anniversary of GEDC, as the collection of all efforts to devise and use engineering methods, and produce engineering solutions to meet the Sustainable Development Goals before it's too late.

The higher education institutions of Planet Aqua need to consider water, marine sciences and engineering, oceanography and limnology, aquatic sciences and engineering, climate and energy, altogether without getting stuck to traditional degree program names. For example, we cannot afford to look at protecting the oceans as a mere SDG14, and view it as a separate topic from ending poverty or (SDG 1), or clean water and sanitation (SDG 6). SDG 14 (life under water) and life on land (SDG 15) are strongly correlated. International relations, communications, logistics, transportation, supply chains, law, and all that relates to sustenance of peace has to do with the science and engineering of the planet's resources in one way or another. Artificial fibers in fast fashion, plastic beads in beauty products, and packaging materials are examples of the pollution we are generating and circulating into waters and back into our bodies. We need to think of the life underwater when designing lint traps and filters in washing machines everywhere.

Mechanisms for near real time informing across disciplines need to be enabled at higher education institutions globally. Research cycles need to open up to interact across institutions, co-innovation needs to be a life style across sectors.

We have collectively brought our planet to the brink of its end; we need to do away with the artificial borders of all kinds to ensure its sustainability. Even if we escape to other planets, our bodies are 60 per cent water.