

# **Summary of Learning from “The Global Challenge of Sustainable Development – Local Implementations at European Academy of Otzehausen, Germany, May 12-19, 2017” and Plan for the Future Use of the Knowledge Obtained**

**By**

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It was a great experience for me to participate in the above subject workshop with KSU colleagues. As an Environmental engineer and as an Environmental Engineer faculty it was a great deal for me. ‘Sustainability’ is a buzzword that is used almost in every discipline. Moving towards sustainability is a social challenge that entails international and national law, urban planning and transport, local and individual lifestyles and ethical consumerism. Ways of living more sustainably can take many forms from reorganizing living conditions for example, ecovillages, eco-municipalities and sustainable cities, reappraising economic sectors (permaculture, green building, sustainable agriculture), or work practices (sustainable architecture), using science to develop new technologies (green technologies, renewable energy and sustainable fission and fusion power), or designing systems in a flexible and reversible manner, and adjusting individual lifestyles that conserve natural resources.

I always viewed the term 'sustainability' as humanity's target goal of human-ecosystem equilibrium (homeostasis), while 'sustainable development' refers to the holistic approach and temporal processes that lead us to the end point of sustainability. Despite the increased popularity of the use of the term "sustainability", the possibility that human societies seem to achieve environmental sustainability has been, and continues to be, questioned—in light of environmental degradation, climate change, overconsumption, population growth and societies' pursuit of indefinite economic growth in a closed system.

Definitely, I had some ideas and approach about sustainability, but it was not sufficient for someone to have enough knowledge of the subject matter to grow. I have extended my understanding, approach, and attitude about sustainability after participating in the workshop. I learned how general people and politicians can be involved in sustainable development which is very important for implementation of any projects. Public awareness and social impacts are also necessary for sustainable development. At some point, I was thinking sustainability is an environmental engineering topic and only environmental engineers can contribute. But the workshop proved me wrong and taught me that that every discipline expert can contribute to the sustainability concepts, project development, and implementations. I learned how the European Union (EU) came together to develop a framework for sustainable development that every nation

can contribute and make it a global issue. Visiting several sustainability projects such as wind mills, solar power generation, gas generation my composting, research institute dealing with technology sustainability, organic firms, and sustainable city Freiburg, zero emission campus Birkenfeld, and surroundings gave me an opportunity to grasp a complete picture of sustainability.

I proposed a course “Sustainability for Engineers” before even participating the workshop. This course was offered in summer 2017 as a special topic by another faculty of the CCE department. I am planning to make this course a permanent one for Civil Engineering (CE) and Environmental Engineering (EnvE) programs as it seems to be a time demanding topic. I am also planning use this course as a study abroad course for engineering college. I will use the background obtained from the workshop to update the new course in sustainability with special application to environmental engineering, as I am responsible for managing and improving the new EnvE program. I will include several case studies from the workshop as part of the course content as the case studies will give clear ideas of project implementation approach and the essential benefits. The knowledge gained from the workshop will help me develop teaching modules for new and existing environmental courses and get involve further in the future research, community engagement, and other scholarship activities that will ultimately help the EnvE program. In several of the general Accreditation Board for Engineering and Technology (ABET) criteria and in program specific criteria it requires that students must have knowledge in “*design environmental engineering systems that include considerations of risk, uncertainty, **sustainability**, life-cycle principles, and environmental impacts; and apply advanced principles and practice relevant to the program objectives*”.

The above ABET criteria are very much relevant to EnvE program that I manage day to day for improvement and implementation. This workshop will help me not only develop new courses, teaching modules, scholarship activities, and get involve in collaborations and community engagements it will also help me better prepare myself for the ABET requirements for the EnvE program as well as other department programs. I am also planning to undertake some research project on sustainability in the future where I will be using the background I obtained from participating the workshop.