Gabriela May Lagunes - Mexico

Hello everyone, my name is Gabriela, and I'm a physicist. I study in London, and at the moment, I'm specializing in the effects of quantum coherence in the energetic dynamics of photosynthetic systems. I hope two main questions are crossing your mind right now. First, what is quantum coherence or what did she just say? And second, what can a scientist say in an event like this? I'll be happy to answer the first question in the break if you're interested in science but right now I'm going to focus on the second question.

The idea that scientists and engineers can only talk about obscure concepts such as quantum mechanics is a constant pattern. Unfortunately, the reality is that the scientific community is usually not part of the sustainability dialogue, because we are usually busy building super-cities or spaceships, or discovering the new 'god's particle', and from experience, I believe that this is because we really have the chance to expose the challenges that the world faces today. However, today I'm here because I believe this can be fundamentally changed in a way that brings a great push to the work that is being done towards the SDGs and to the International Community. This can be done from the universities by enabling students to take active action in sustainability projects as part of their professional formation. Let me explain how this could work, from my own experience.

Back in 2013, in my first year of university, I got involved in an Engineers Without Borders project, led by a student society. The objective of the project was to bring water security to the rural communities in the center of Mexico. In this area, people have access to water just through wells, and these wells are highly contaminated with fluoride and arsenic, bringing important problems such as fluorosis, kidney and heart diseases, and cancer. At the end of the first year, we were able to install, design and implement 13 rainwater harvesting systems, giving drinkable water to over 400 people. We were able to fundraise, travel, work with the communities, learn from the communities, and together we made this possible. This is an ongoing project that reaches more and more communities every year, and that has been used as a study case in engineer classes, and as a topic of two master dissertations, one including the development of a solar pump for future systems.

I kept working over the years with this group, and in three years we've had a portfolio of 15 different projects in different countries, around Africa, Asia and Latin America; all with scopes related to water security, energy, shelter, and food supplies. The thing that they all have in common is the cooperation with local partners, and that they have been possible thanks to the passion and work of students. I hope you see the importance of these kind of projects, because a girl that is able to have access to water is more likely to go to school, a boy that has energy to study is going to be able to be economically independent in the future, and a mom that is capable of giving food to her children is less vulnerable to human trafficking and organized crime.

However, this is difficult because it is not just about delivering a good scientific solution, it is about making it work in a specific context. The increasing demand for these kinds of opportunities from the student body, and the growing portfolio that we have been managing, brings me to the solution we are proposing: the creation of a center of Engineering for International Development at University College London. This center is aimed to be a pilot, and it could be reproduced in any other university around the world.

The objectives of this center would be four. The first one could be to make it possible to enthusiastic students to use the research and work as undergrads, masters or doctorates to be able to produce a sustainable solution towards an SDG. Second, to provide volunteering opportunities to students who wish to know more about the challenges of the world. Third, to allow academics to direct their work, research and teaching on the development of solutions for SDGs. Fourth, and most important of them all, it could allow the international community and development actors as yourselves, to have access to highly skilled people, that are really whiling to help your projects become a reality. The steps to follow are: the implementation of internal procedures within the university, the creation of further international partnerships to make this possible, and the launch of pilot projects.

I hope I have awakened your interests, because education is not just about making sure that education is accessible to more and more people, but it is about ensuring the formation of integral professionals with skills and awareness in order to lead the change. All of the solutions presented today have one thing in common: they all need special people with special skills (engineers, scientists, doctors, psychologists, social workers, architects, and lawyers). All of them are being formed right now at universities and all of them could be able to be at your disposal for the fulfillment of the 2030 Agenda. Let us trust the commitment, passion, and the capability of the youth, and together engineer the solutions we need not tomorrow, but today.

Thank you.