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Education for Sustainable Development

The Quintuple Helix Model for Innovation

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The development sector is closely linked to education, a key driver in building capacity for change, which is, in turn, a necessary means to achieving broad goals of improving society.
"Education for Sustainable Development (ESD) empowers learners with knowledge, skills, values and attitudes to take informed decisions and make responsible actions for environmental integrity, economic viability and a just society[1]."

ESD underpins all the of Sustainable Development Goals (SDGs) since it emphasises how to mobilise and equip people to make change in support of the environment, a significant difference from learning about the environment. In terms of pedagogy, ESD requires a new approach. Traditional approaches protect educational autonomy to strive for "pure" knowledge – pursuing knowledge for the sake of knowledge. A consequence of this, perhaps unintended, is an isolated approach, silo-style, that does not embrace other knowledge systems. This traditional academic model clashes with the needs of EDS which looks across disciplines and blends solutions to consider multiple stakeholder contexts. On the one hand, this can slow down the development of a single solution as it requires consensus, always a time-consuming process. On the other hand, incremental (smaller) solutions that consider multiple perspectives are more robust and can withstand the introduction of external factors – hence they are more sustainable.

The Triple, Quadruple, and Quintuple Helix Model of Innovation

The Triple Helix Model of Innovation[2] offers a framework that brings together three spheres that traditionally operate separately (academic, industry, and government). It theorises that in a knowledge economy, boundaries between the different spheres are fading and interaction between them – around knowledge exchange and production – flows dynamically in all directions and creates an innovative environment.

The Quadruple Helix adds a civil society component which further contextualises knowledge production within a knowledge-based society[3]. The Quintuple Helix adds natural environments for society which runs through all the spheres and links them intrinsically to a socio-ecological transition towards sustainable solutions.

Thus, the Quintuple Helix Model (QuinHMI)[4] of Innovation provides a framework for creating a connective tissue between diverse stakeholders through common interests and goals. This allows for small steps towards collective solutions and incremental progress which is an effective approach to complex issues such as those faced in sustainable development. These difficult issues cannot be simply solved with traditional methods and therefore often referred to as "wicked problems" because they are socially complex, interdependent and have no single solution – solutions are seen differently by different stakeholders in multiple disciplines and sectors with various and conflicting priorities.

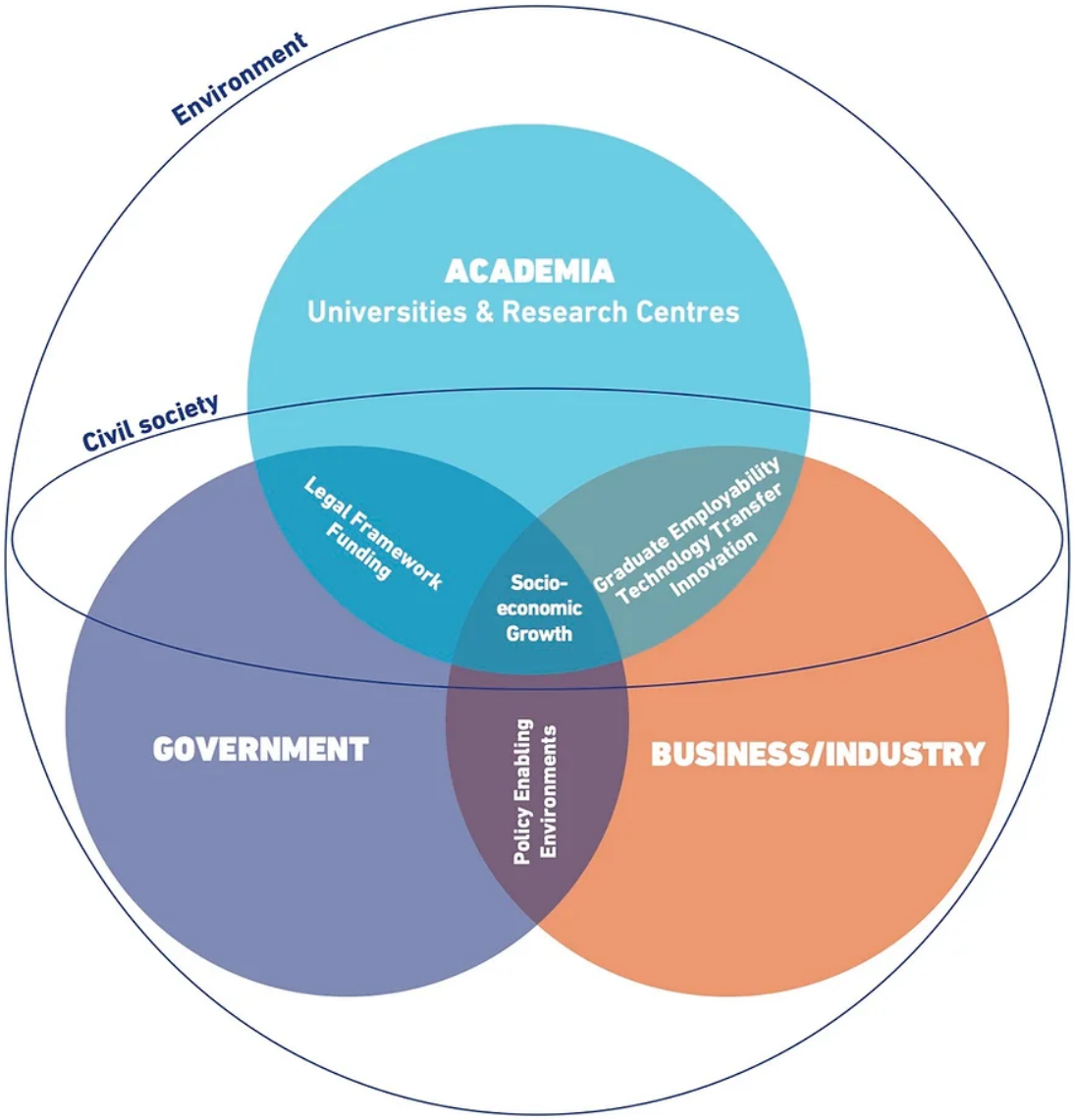

Figure 1: The Triple Helix of academia-industry-government relationships with the integration of civil society (quadruple helix) and the effects of investment in education on sustainable development (quintuple helix)[2].

ESD and the Quintuple Helix

The Quintuple Helix integrates the very same components that influence the broad objectives of ESD. As such, this model is a useful pedagogical approach. As guiding framework, the QuinHMI provides a collective set of terminology and facilitates diverse stakeholders in finding common ground. By linking the helices, investment in one sphere or progress in another result in a positive impact in the other helices precisely because they are linked and therefore the contexts outside of the single perspective are considered in all aspects of decision-making and progress.

Applying the Quintuple Helix

As an intergovernmental organisation, the Union for the Mediterranean (UfM) navigates a multi-faceted stakeholder environment that represents its member states commitment to a common cooperation agenda. One of the UfM's strategic objectives is human development which includes Higher Education and Research. Activities in this area aim to support member states in contributing to the Global Development Agenda, particularly to the achievement of the 2030 Sustainable Development Goal (SDG) 4: *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, the SDG 8-6: Reduce the proportion of youth not in employment, education or training (NEETs)* and SDGs where research and innovation play a crucial role.

UfM naturally responds to the same multi-stakeholder environment present in the Quintuple Helix and ESD. Thus, QuinHMI is an obvious choice to guide UfM activities in Higher Education and Research. As part of its 2021 planning, UfM continues to strengthen the capacity of higher education institutions, research centres and HE policymakers to improve the employability of their graduates and researchers so that they are able to find or create meaningful job opportunities and contribute to innovation in their local and regional economies.

Paeradigms has partnered with UfM since 2020, applying the QuinHMI to develop a handbook on the innovation-employability nexus, highlighting good practice in the Mediterranean region. Currently the team is developing a number of different training opportunities with the aim of sharing best practices (remote and in-person) throughout the second part of 2021. The training is designed using the theoretical lens of the Quintuple Helix framework.

The QuinHMI has already been positively received by stakeholders, encouraging and inspiring the creation of a community of practice in the Mediterranean region. Its impact on facilitating the socioecological transition necessary to face global challenges in sustainable development has a great potential.

References

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