Case Study
Sustainability is not just about the environment

Just imagine a country with zero carbon emissions. A country that recycles all its waste, but it has a minimum waiting time of six hours for patients in the hospital emergency room to be seen by a doctor. When we think about sustainability, apart from aspects of our environment (both the built and natural environment), other aspects such as economy and society should also be taken into account. The integrated nature of these three aspects needs to be considered in any sustainable development.

The United Nations Sustainable Development Goals (SDGs) seek to balance social, economic and environmental aspects. This framework provides a global guide for a truly sustainable future. However, it gets complicated when these aspects can positively or negatively impact each other. In other words, moving closer towards achieving one aspect of sustainability can have a negative or positive impact on other aspects.

For example, improvement in education positively impacts the economy; however, some strategies to combat climate change can compromise that by its trade-offs on the economy. These synergies and trade-offs are the primary reasons why sustainability is complex and complicated to achieve. One possible solution to accelerate sustainability is to identify these relationships and then prioritise policies that exert synergies and minimise trade-offs.

Atie Asadikia, a PhD student with the Centre of Spatial Data and Land Administration (CSDILA) SDGs Research Group, is researching to develop a systematic and holistic decision-making tool to prioritise goals that exert synergies to maximise SDG achievement by 2030. In this research, machine learning and data mining techniques are adopted to identify the pattern among the data and prioritise the synergetic policies to accelerate progress towards meeting goals.

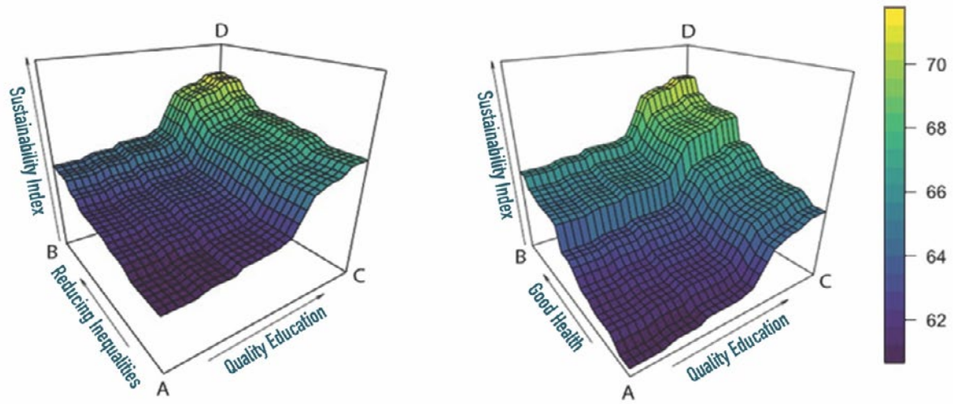

Image
PhD student Atie Asadikia and data outputs of the decision making tool.