Sustainability in Higher Education for the Global South: A Conversation across Geographies and Disciplines

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ABSTRACT

A workshop on 'Sustainability in Higher Education from the vantage of the Global South' was organized by the Azim Premji University between 12 and 14 January 2015 in Bengaluru, India. Its goal was to explore how sustainability can be integrated into undergraduate, postgraduate and professional courses. The workshop was divided into four sessions with interlinked themes – the first, with a focus on framing sustainability; the second, on integrating sustainability in higher education; the third, on sustainability curricula; and the last, on pedagogy for sustainability. All four sessions were informed by the broader educational goal of enabling students from diverse backgrounds to envision, conceptualise, research and implement sustainability in varied personal and professional contexts. Participants of the workshop drew upon their varied experiences, from India and institutions across the world, in the teaching and learning of the multidimensional concept of sustainability in diverse geographies. The questions, counter-questions, discussions and potential solutions raised during the workshop are presented in this paper in a dialogic style.

Keywords: sustainability, education, Global South, framing, curriculum, pedagogy.

INTRODUCTION

A three-day workshop, organized by the Azim Premji University (APU) between 12 and 14 January 2015, in Bengaluru, India, explored how one frames and teaches sustainability, particularly in the context of higher education in the Global South.

The idea for this workshop evolved from lively discussions among the APU faculty on whether sustainability in the Global South is viewed differently from that in the North. And, if there are differences, as most of us believe, then how do these differences influence the framing and teaching of sustainability in higher education in the Global South. The workshop brought together a diverse group of individuals who are keen students, researchers and teachers of sustainability, from across different geographies. It was conducted in four sessions, each focused on one of the following themes – 'Framing sustainability', 'Integrating sustainability in higher education', 'Curricula for sustainability', and finally, 'Pedagogy for sustainability'.

This paper is an attempt to capture the rich conversation between the workshop participants over two days of deliberations. It includes new ideas and questions that have emerged during the process of writing it. We do not claim the ideas, suggestions, questions, assertions, answers, solutions, and opinions in this brief written piece to be original. They are shared reflections from experiences in sustainability thinking and practice, expressed primarily from the perspective of educators. The paper is written in a dialogic style, which we believe best reflects the nature and intent of the workshop discussions. It may show some repetition of ideas, which we consider inevitable in this format; and may be a reflection of their importance. The outcomes of the workshop are particularly relevant to the faculty at APU, as building diverse educational programs in sustainability is part of this University's social mandate. However, we hope that they are also of value to other educators in envisioning sustainability education in a form that is relevant to

the contexts of their practice, particularly in the Global South where the challenges of development remain visceral.

Section I: Framing Sustainability

1. Is sustainability definable?

Sustainability can be (and is defined) in numerous ways, laying varying emphasis on its ecological to social, science to lifestyle, ethical to analytical, and inter- to intra-generational dimensions. What defies simple responses, however, are questions of 'what' is to be sustained and 'for and by' whom. These are made more challenging by trade-offs between the various components of sustainability, within and across its different dimensions. While these differences in emphasis may reflect specifics of context, disciplinary focus, scale and value judgements; none of them do justice to the multi-dimensionality of this concept. Thus, like any powerful normative idea, arriving at a comprehensive definition of sustainability remains as slippery as a jellyfish that cannot be nailed down. However, working definitions of sustainability should necessarily reflect the priorities and emphasis particular to local contexts, while drawing from global learning and experience.

2. How is sustainability related to resilient systems?

Resilience has become an important 'boundary object' in sustainability debates, with the potential to provide common ground for reconciling the natural and social sciences. Interpretations of resilience vary between a focus on the ability to bounce back, or to transform; with connotations that range from being positive to neutral. Not surprisingly, the relationship between sustainability and resilience was one of the most contentious questions in the workshop. Responses to it stemmed from two broad perspectives – ontological and epistemological.

From an ontological perspective, the origins and orientation of sustainability are more anthropocentric than those of resilience, understood as the property of an ecological system to withstand shocks while retaining core functions. A resilient system need not always be of use to humans. Sustainability, on the other hand has strong societal connotations - what needs to be 'sustained' remains a prerogative of human perceptions and preferences. While these preferences, decisions and actions do influence the resilience of a system; sustainable systems need not be resilient, and vice versa. For example, eutrophication makes a lake unusable by humans (and some other species); but the lake is in a new resilient state as a result of the unsustainable use of its capacity as a sink. However, if sustainability is not perceived in strictly anthropocentric terms, then its relationship to resilience may be different. More eco-centric definitions of sustainability, referring to our ability to co-exist with other species, can be found among many indigenous communities of the Global South. Conversely, resilience could be described in terms that extend beyond a purely ecological description to one that recognises hu-

mans as being part of ecological systems. Resilience, then, is understood as the property of a socio-ecological system to withstand recurrent perturbations, while retaining core structures, processes, and feedbacks. In one view, this description may be confined to certain ecosystem services, functions or components of a socio-ecological system that we want to continue having access to. Systems that show this kind of resilience may be said to be more sustainable than others, with respect to (and for) each of the preferred services /components. An alternate view argues that for any system to provide goods and services in a sustained manner, it will need to be resilient to periodic perturbations. Sustainability without resilience may just mean sustained reproduction, leading to eventual collapse of the system. In this view, socio-ecological resilience is embedded in sustainability, and unless a system as a whole is resilient, it is not truly sustainable.

From an epistemological perspective, both resilience and sustainability can be seen as inherently normative ideas that are currently jostling for political hegemony in a similar societal space. By integrating relatively newer (socio-ecological) ideas of resilience within the older idea of sustainability, we may avoid perpetuating two apparently competing normative ideas. However, key concerns of social sciences, like conflict, agency and power are not addressed by resilience approaches. Including resilience in an integrative framing of sustainability therefore bears the danger of depoliticizing sustainability issues.

3. How is sustainability related to equity and justice?

Sustainability implies equity and justice within and across generations, human societies and species. Although inter-generational equity finds more attention in the popular discourse on sustainability, it can be understood only by recognising intra-generational equity as a determinant of sustainability. Without adequate attention to equity and justice (social dimension) in the present, sustainability will be limited to just an ecological/ conservation goal. While a healthy natural environment is indispensable to human well -being, a socially just society is better equipped to conserve its natural resources. In a highly inequitable society (divided by gender, ethnicity, caste, class, and sexual orientation), ecological sustainability, even if achievable, would most likely be short-lived. Deep and multi-pronged (social, economic, political) inequities drive aspirations for resource-intensive lifestyles, while undermining alternate values and knowledge systems of disadvantaged communities. Consequently, they deter a large proportion of the human population from adopting sustainable practices. In addition, such inequities can increase conflict and social upheavals, deferring sustainability motivations indefinitely.

4. Is sustainability the ethics of a transitioning world?

We are beginning to acknowledge this. We are grappling with many socio-ecological and economic transitions in the present that are made more complex by being inextricably entangled across space and time. These circumstances may require a new normative: one that can guide more judicious human actions and responses to change. Sustainability offers the potential to be such a normative.

Recognising sustainability as the ethics of a transitioning world is not without its challenges however. Sustainability as a normative remains more than just the sum of all other normatives, despite being constituted by them. Thus, attempts to individually address the many powerful (ecological, social, institutional among other) normatives that this concept draws from, will no longer be sufficient. Sustainability as a normative may not also simplify the difficulties of balancing equity and welfare in the short- and long-term within and across generations, human societies, and species. With no historical models for economic development that meet these criteria, deviating from the dominant model may require charting of a new path. Actions in the present run the risk of consequences so far in the future that the final outcomes of our decisions are difficult to foresee and/or prepare for. Such inter-generational concerns cannot be addressed purely by economic/utilitarian arguments or unaided intuition. Rather, they make it necessary for an ethical lens to become part of a fast-changing sustainability-conscious world in the Global North as well as South.

5. Are we expecting too much from one concept?

We are. This is not just inevitable, but also necessary, even if expecting too much from this concept makes it seem unwieldy. It is crucial that sustainability reflects the real challenges of the world we are trying to understand and improve, without wishing away its complexities for the sake of elegance. Sustainability is fast becoming a popular term that is widely used, misused and abused. Over-simplifying it may reduce it to just another meaninglessly repeated jargon; especially in sustainability related policies, institutions and interventions. By ignoring its nuances, these efforts bear the very real danger of doing more harm than good to their intended goal.

6. Is the framing of sustainability in the Global South any different from that in the North?

Although the understanding of sustainability remains multi-dimensional in both the Global North and the South; what differs between these societies is the emphasis given to its different dimensions. Sustainability concerns from the North generally emphasize its ecological dimensions; while in the South, social dimensions of equity and justice cannot be relegated to the back-burner. Framing of sustainability in the Global South is also more realistic in reflecting the more immediate and politically sensitive nature of complex trade-offs between its social and ecological dimensions.

It is to be noted that the terms ‘North’ and ‘South’ are used here to describe the divergence between the capital accumulating ‘core’ and its ‘peripheries’. Both core and peripheries could be located within a country/region or across these boundaries. Thus, the presence of the ‘North’ within the Global South, and the ‘South’ within the Global North - are realities; not possibilities.

7. What are the implications of framing sustainability differently in the North-South contexts?

The implications of a differential North-South framing of sustainability are a consequence of the reasons behind these differences. Differential frames are, at least partly, attributable to the fact that socio-political boundaries mask the reality of the planet's contiguous socio-ecological system. Since socio-political boundaries are more widely reinforced (by policy and the economy) and recognised by human societies across the globe; their influence on human actions is overwhelmingly greater than that of the seamlessness of ecosystem boundaries. This is in stark contrast to the fact that the damaging impacts of human actions do not respect man-made boundaries. This asymmetry between bounded socio-economic actions/responses and their boundless ripples of social-ecological impacts, generates North-South conflicts on how sustainability concerns should be addressed. In this context, it is important to re-iterate that the North (capital-accumulating core) and South (peripheries) are not restricted to single geographies; and could be identified within as well as across political boundaries.

Thus, when impacts are cross-country in nature and mitigating actions have to originate within countries, a difference in framing of sustainability between countries will accentuate conflicts. Countries differ economically and culturally, presenting different priorities and contexts for interpreting sustainability. Despite the differential framings, in an intricately interconnected world it is critical for perspectives from both the North and South to learn from each other.

8. Are there any distinctly Global South perspectives in sustainability?

Yes, there are. Although much like their counterparts from the North, they do not or, in some cases, cannot (as they come from outside the boundaries of the Global South) call themselves so. These include Eco-development (Ward and Rene, 1972, report commissioned by Maurice Strong), Sustainable Societies (World Council of Churches, quoted in Dowdeswell (1994)), Sustainable and Equitable Development (IUCN, 1980), Eco-socialism (Pepper, 1993), Economy of Permanence (Kumarappa, 1997), Environmentalism of the Poor (Martinez-Alier, 2004), Community Ecological Governance and Earth Jurisprudence (The Gaia Foundation, 2015), Radical Ecological Democracy (RED, 2015), among others.

Section II: Integrating Sustainability in Higher Education

9. Is it possible to teach sustainability in a formal academic programme?

Yes. Even if recognised as an ethic/normative, it is possible to teach sustainability formally - much as we teach other social normatives like democracy, equity, justice and welfare. Sustainability is only different from these other normatives in including the non-human world as a contingent part of its framework.

10. Is sustainability best represented as a domain, field, discipline or a value in higher education?

Sustainability is not a discipline in itself – it does not have a steady shape or boundaries. Instead it integrates knowledge and methods from a variety of social and natural sciences (like environmental sciences, ecology and development studies). However, it also transcends a simple summation of discipline-specific perspectives and tools, by linking them with practice. Therefore it represents a trans-disciplinary domain of inquiry. For example, a systems-perspective is needed to analyse trade-offs and complex feedback loops; while political acumen and sensibilities are needed to achieve social change. By synthesizing these in context-specific ways to address human problems in the real-world, it bridges the distance between knowledge, knowing and action (that David E. Blockstein, famously, and humorously, sought to reflect on in an article titled: "How to Lose Your Political Virginity while Keeping Your Scientific Credibility" - BioScience, 2002).

However, its core character can also be described as that of a normative or an ethic that when integrated with other disciplines or domains, broadens their vision and extends their boundaries. Diverse domains (like agriculture, sociology, economics, the hospitality industry, and medicine among others) can be found to integrate sustainability arguments as a way of thinking about development and the progress of human society.

As an emerging global meta-narrative that seeks to transform society, sustainability may need to co-habit both these academic identities. In seeking to reflect the complexity of a changing world, sustainability as a trans-disciplinary domain of inquiry must evolve independently of its constituent disciplines. In order to organically guide more judicious change in all spheres of human activity, it must also continue to remain a normative that influences other disciplines.

11. Is it possible to institutionalise an interdisciplinary academic programme in sustainability?

Learning and teaching the concept of sustainability requires an interweaving and interlinking of concepts from different disciplines, and should therefore be a collective effort. This requires a shift from the super-specialised, reductionist approach commonly seen in mainstream education, careers and the way we live our lives.

Given the sheer complexity and relative novelty of this task, developing an interdisciplinary/integrative academic programme in sustainability will require the involvement of instructors with certain competencies, and spaces that facilitate inter-disciplinary collaborations. Faculty from both the natural and social sciences will need to respect the validity of different disciplinary perspectives, vocabularies and methods; and be open to learning from them. They must also be willing to explore new multi/cross-/inter-/trans-disciplinary approaches to teaching their own disciplines from a sustainability perspective. This will require the involvement of both specialists, who bring their knowledge of discipline-specific insights and methods; and generalists, for their skill in identifying and building bridges between different disciplines. Academic institutions like universities are most likely to have faculty with backgrounds and training that fit both these roles. Often

this advantage is offset by complex institutional barriers, and an academic culture, that tends to promote individualistic effort over collaborative work. Non-academic institutions may be more amenable to collaborative projects, but may not have a ready pool of people with the required competencies. Ideally, meeting this challenge may require the birth of new interdisciplinary centres, which combine the advantages of both. It is to be noted that academic engagement with sustainability tends to be problem-oriented; therefore, teams need not be perennial (as usually is the case in disciplines) and could be adaptively reconstituted according to the changing needs of disciplinary or contextual insights and skills. Cross-institutional arrangements could also help bridge theory and practice.

12. What is the typical structure of an academic programme in sustainability?

Since sustainability is both 'independent of' and 'dependent on' other normatives/ disciplines, academic programmes in sustainability can be structured in two different ways:

i. Stand-alone courses/programmes in sustainability.

ii. Integrated into existing core/ elective curricula of all disciplinary or professional programmes.

For most institutions, this structure and coverage (breadth, depth) is based on the age-group and educational level of students, as well as the type of programmes in related fields.

Stand-alone courses may be designed as a broad introduction to students pursuing other disciplines and careers; tailor-made to demonstrate applications of their disciplines within the larger sustainability perspective. Stand-alone programmes may build on this introduction, unpacking this concept in greater depth and nuance for students committed to academic/professional careers in sustainability. Their design may need to include a common framework of concepts, principles, methods and tools (levelling knowledge); interdisciplinary analysis; problem-oriented training; and openness in including non-academic actors in practice. Both of these could be conveniently introduced without influencing other university courses or programmes - some of which may teach unsustainable (from both social and ecological angles) practices. Thus, the risk is that students may be left to grapple with mutually divergent learnings from the different university courses that they are a part of.

Integrating sustainability into the core or elective curricula of all disciplinary or professional programmes may be ideal for students interested in pursuing an academic or professional career in other disciplines. By choosing this approach, universities have the potential to offer critiques of existing interventions, if not aiding in less un-sustainable innovations. However, integration is significantly more challenging to implement than stand-alone programmes, as it will need the necessary buy-in and competencies from instructors of other disciplines. It may also require the use of pedagogical tools like issue-based case studies or practicums for field experience, to seamlessly assimilate examples and topics in sustainability into diverse academic curricula. Thus, this approa-

ch is ideal for universities committed to making sustainability an integral part of their vision and overall policy. Such universities may consider implementing this integration in a phased manner.

In principle, sustainability may be most effectively taught through a combination of stand-alone and integrative programmes, offering separate forms of engagement for different categories of students. In practice, most universities opt for the path of least resistance: stand-alone, optional or elective courses.

13. At what educational level is an academic programme in sustainability most effective/necessary?

Considering its importance in a world intricately linked across place, time, people and nature; academic programmes in sustainability should be included at all levels of higher education. However, the scope (breadth and depth) and treatment of sustainability at each level may need to be tailored to the knowledge and skills expected from students at that level. It may also be influenced by the need to build specific competencies desired for the field(s) that the learner intends to engage with in the long run.

For example, a stand-alone programme in sustainability can be offered at either the undergraduate (UG) or post-graduate (PG) level. At the UG level, a stand-alone programme may equip students with the ability to deal with complex problems; using language, tools, methods, and practices that are common to diverse disciplines. It may thus offer a broader perspective to sustainability, with an openness to integrate disciplinary contributions. It, however, faces the risk of presenting sustainability as a discipline in itself; or, leaving students with a shallow understanding of its trans-disciplinary nature. At the PG level, a stand-alone programme may provide a rich field for the interaction of students coming from various disciplines. These different disciplinary backgrounds serve as "academic anchors", preventing shallowness and enabling solid paths for dialogue with disciplinary researchers (networking). However, the challenge at this level will be to ensure that students develop an integrated perspective to sustainability. Ideally, a stand-alone programme that builds inter-disciplinary integration on strong disciplinary foundations will ground students in a more comprehensive and multi-dimensional understanding of sustainability. Thus, a stand-alone programme may be most suited at the PG or higher levels, where it equips students with the solid disciplinary training required to make advances in this or related fields. In contrast, an undergraduate student dabbling in multiple disciplines may be better off with a stand-alone course that introduces only the most important themes of sustainability discourse. Or, as a topic integrated to the varying extents possible with all the other subjects/disciplines that are taught at this level.

14. Is sustainability better suited to a degree programme in in the natural sciences (B.Sc/M.Sc), social sciences (B.A, M.A), or a combination of both (Bachelors/Masters in Sustainability)?

This may depend on goals of the institution (university or college), its existing curricula, and expectations of one or more professions or society in general. It may also be influenced by the goals, expectations, as well as the academic and/or professional backgrounds of its students and faculty.

However, an academic programme in sustainability that offers a combination of degrees would be ideal. Such a programme could start with a historical analysis of sustainability in its various forms and contexts, with its many components unpacked through relevant natural and social science approaches. It could be designed to include a common pool of core courses that cut across the science-humanities spectrum, along with a variety of discipline-specific electives. Students may be awarded a natural science or a social science degree depending on the specific disciplinary paths that they specialise in.

Section III: Curriculum for Sustainability in Higher Education

15. What are the organizing principles of sustainability as a body of knowledge?

One of its most important organising principles is the inevitability of inter-linkages across disciplinary forms of knowledge. By involving a synthesis of ideas and principles from diverse disciplines applied in the context of human well-being, sustainability reveals the artificiality of disciplinary boundaries and departmentalised knowledge. It also bridges the traditional separation between knowing (in diverse epistemologies) and living, requiring a holism in the sensibilities of a learner. It is likely that this may place new and unfamiliar demands on a curriculum for sustainability in higher education. For example, expertise in the physics of heat-transfer is unlikely to make the same demands or have the same impact on individual and collective values and choices, as say, knowledge of the greenhouse effect. While the former can more easily be separated into compartments of knowledge and life, the latter is necessarily enmeshed and impels a re-engagement with foundational assumptions for the conduct of personal and collective life. Other organizing principles include the need to combine aspects of social justice (fairness), limits to growth, and social and ecological resilience.

16. What are some of the most fundamental concepts that should be covered in a sustainability curriculum?

1. A rigorous introduction to the evolution of sustainability as a normative value, and its current and future implications for the way we develop as a society.

2. An introduction to some heuristic models from the social sciences and humanities that explain how social and socio-ecological realities come into being and/or change.

3. Exposure to relevant concepts and theories within relevant (natural and social science) disciplines. As sustainability informs other disciplines, this will include

new hybridized theories that it catalyses in each discipline.

4. Exposure to inter-disciplinary and trans-disciplinary theories (especially new ones emerging in this nascent body of knowledge) and methods within the context of sustainability.

5. Opportunities to discover principles of sustainability 'hidden' in their own experiences/disciplines/professions. Students can then focus on a particular disciplinary area, while recognising connections within the larger context of sustainability.

17. How important is it for a sustainability curriculum to address the analytical, scientific and normative aspects of sustainability?

As a trans-disciplinary endeavour, it is important that sustainability be understood as an integrated frame of analysis and action. Thus a sustainability curriculum should integrate analytical and scientific perspectives from ecology, economics and environmental sciences with the normative strengths that the humanities and social sciences provide.

Designing a curriculum that attempts reconciliation between these aspects of sustainability may present three challenges. One that sustainability will need to be presented both as a normative that informs other kinds of knowledge; and as a concept that absorbs other normatives. This is true for its analytical aspects as well. Two that sustainability is not just challenging to define precisely and unequivocally; but also difficult to measure and assess. Three that forcing an artificial reconciliation may make this concept seem too unwieldy. Some reconciliation may be attempted by breaking sustainability curricula into its various components. This approach may allow appropriate quantitative analysis and measurement through various disciplinary and interdisciplinary methods and tools. However, a single tool/perspective/index could be worthwhile expeditions only if what is missing is highlighted and explained well enough for students to not confuse their outcomes with integrative solutions. While acknowledging that truly integrative tools may not yet exist, it may also be important to emphasize the necessity of constantly work towards them; however clumsy on-going attempts may seem. In fact, the challenge of developing an integrative measurement tool may in itself have scope for student projects in real contexts.

One can argue, however, that reconciliation may not be necessary. Sustainability can be taught primarily as a value, as it does not appear rational to imagine an analytics for sustainability that is too different from that of other kinds of knowledge. The challenge in this approach is that by absorbing other values, sustainability may seem like such a diffuse and large a value that it is no longer meaningful.

18. How important is a systems approach versus a discursive approach in a sustainability curriculum?

A systems perspective or an instrumental approach is important in integrating ecological literacy to a robust understanding of sustainability. Discursive and interpretive approaches are essential in reflecting the discursive nature of how human beings make and remake our world in the context of sustainability.

Ideally, sustainability curricula should build capacities to see a larger integrated picture of sustainability through a combination of the two approaches. In a stand-alone programme, students should appreciate both the instrumental and discursive approaches to understanding a particular problem, issue or idea. This may be accomplished through case studies. In disciplinary or professional programmes, instrumental approaches may be preferred for natural science students, along with rich discursive details; and vice versa for social science students.

19. Should sustainability curricula from the Global South be different from that of the North?

Any discourse on sustainability is anchored in the larger social context in which it operates. It is also shaped by the role of the political economy in how we produce knowledge and govern societies. This is clearly seen in an emerging body of work that bridges interpretations of the environment with human history, society and politics. In addition to their wider theoretical and methodological relevance, such interpretive forms of knowledge tend to have strong regional connections. However, the teaching of sustainability in the Global South has largely been based on the discourse and approach to sustainability from the Global North. Curricula from both positions may share common goals, including integration across natural and social science disciplines; “systems” as a core concept; development of skills; and exposure to real-world problems. They may also face common challenges like, the systemic institutional problems of faculty teaching in an interdisciplinary program; balancing breadth and depth; and hands-on experiences to appreciate cultural differences within the standard course structure. However, a lack of exposure to the ideas and practice of sustainability that are distinct to the South may result in a contradiction between student actions and the realities of their contexts of practice. Thus, sustainability curricula from the Global South should be tailored to reflect differences in their framing of this concept. This can be done in two ways:

i. Topics, theories and methods may be prioritized based on regional concerns, without compromising on their global relevance. Topics from the natural sciences and theoretical and methodological approaches from the social sciences and humanities are likely to be common and equally relevant to sustainability curricula from both positions. What should be different, given the historically distinct positions of the North and the South, is the interpretation of facts, and the relevance and weighting of theories and methods.

In general, curricula designed from the Global North perspective tend to be dominated by instrumental definitions of sustainability and/or a systems approach to address imminent threats like those of urbanization or climate change. In contrast, curricula

designed from the Global South perspective may need to emphasize the normative/ethical dimensions of sustainability in addressing immediate challenges of social justice and inequity. For example, environmental justice in the Global North is focused on the distribution of costs of pollution among different groups; while in the Global South, its focus is more on access to means of livelihood.

ii. Examples and case studies may be prioritised based on their relevance in contexts of practice. While well-known global examples may be used to build a broader perspective and a comparative understanding; curricular design from both positions should focus on using region-specific examples as a norm.

Section IV: Pedagogy for Sustainability in Higher Education

20. What are the expected competency and skill-based outcomes of an academic programme in sustainability? How do we assess for these outcomes?

The expected competencies and skills of an academic programme in sustainability will depend on the educational level at which it is being offered. A Masters-level programme should typically equip students with the ability to:

i. Recognise the big picture and its contingent complexity.

ii. Construct conceptual models that incorporate multiple dimensions of sustainability.

iii. Demonstrate the ability to think critically, analytically, and more importantly holistically.

iv. Apply a systems-thinking approach and identify trade-offs in problems of sustainability.

v. Integrate insights from across disciplines to analyse processes and articulate responses.

vi. Develop an informed confidence to question the norm and mainstream thinking.

vii. Concisely state and defend one's normative positions while acknowledging the legitimacy of other positions.

viii. Demonstrate the practical application of quantitative and qualitative skills: including data collection, interviewing and recording narratives, analysing and interpreting narratives, understanding and application of statistical tools, documentation for communication with a variety of target audiences.

ix. Demonstrate technical, social and institutional skills for sustainability interventions as field practitioners.

x. Demonstrate informed issue-based advocacy and political astuteness.

The most effective assessments to measure progress in acquiring these competencies and skills may be those that present opportunities to apply them to a real-world problem of interest. Thus students should be encouraged to work on a thesis, annotated bibliography, research project, policy paper, debates, case analysis, and so on.

21. What pedagogical approaches are relevant in the teaching of sustainability at the university level?

Pedagogical approaches in sustainability will depend upon the kind of knowledge that it is seen to represent, the kind of competencies that are aimed for, and assessments considered ideal for evaluating such competencies. Though it may not be wise to continue to pit theory versus practice, the teaching of sustainability at the university level is commonly oriented towards theoretical engagement. Given that its origins are strongly rooted in practice however, a well-designed programme in sustainability may need to integrate problem-based learning, practical engagement and embodied or phenomenological approaches. Field engagement requiring an experience-based project could represent a very useful leveller between theory and practice.

However, balancing theoretical and practical pedagogies in a university (with limitations of time, for example) may be a challenge. It may also require instructor capacities which are not yet prevalent. With these constraints, it may be important to point to the need for other approaches, while doing what can be pragmatically addressed. It may also be important to acknowledge that a university programme may only be the beginning for students; sustainability has an explicit expectation of and need for 'lifelong learning'. (Also see question 23)

22. Does the pedagogy for sustainability require an examination of our relationship with the land and/or nature?

At a deeper level, sustainability does call for an examination of our relationship with nature, especially at a time when nature has been virtualized. What is the real thing like? Are we and what we do a part of Nature or removed from it? Answers to these questions have important implications for the way we approach sustainability.

The examination of our relationship with land and nature cannot be exclusively or perhaps even primarily, conceptual. Embodied, experiential, hands-on and/or 'sense -based' forms of learning have the potential to offer a powerful understanding of the relationship between humans and the natural world.

23. How do we equip students with the ability to respond not just intellectually, but also ethically and emotionally to the idea of sustainability?

While cognitive and intellectual understanding of the idea of sustainability is necessary, it is not sufficient. At the heart of sustainability are various aspects that cannot be

understood only through the lens of the intellect or technology: social and ecological justice, equity, interconnectedness, stewardship, moving away from the pursuit of individualism towards commons and the collective. The decisions we make on how we engage with the environment and draw upon natural resources to meet our needs and wants are not driven purely by the intellect. Social, cultural, political and emotional inclinations underpin and inform our individual and collective decisions on living sustainably. A lot of this is drawn from practice, experience and knowledge that exist with people rather than in academic treatises. Thus, while we may understand the idea of sustainability intellectually, the actions needed to practice it may come from ethics and empathy.

The primary normative and ethical component of sustainability is fairness. It is important to help students reflect on what fairness means: is it always equal pieces of a pie? Students may need to appreciate what fairness is not and then, perhaps through personal experience, build for themselves an understanding of what it is. To cultivate empathy, students may need to either imagine themselves in shared human accounts of a sustainability problem or experience a sustainability-related situation first-hand.

It may be possible to achieve these outcomes through a variety of pedagogical approaches. One approach may involve the teaching of sustainability through ethical, moral and political reasoning based on empirical evidence, policy dilemmas and choices. All forms of experiential learning would be effective pedagogical approaches: students writing their own case studies, learning to frame a problem clearly by experiencing or seeing a situation and designing a policy and/or intervention response. Case-studies, for example, may help students learn to see the big picture and unpack its multiple dimensions and components through both a systems and discursive approach.

The pedagogy for sustainability can also benefit from approaches used in other domains, such as Development Studies, that unpack the normative values framing ideas of progress. Thus, values that are pluralistic by nature and open to discovery and learning can be taught in the foundational courses, and referred to in other courses. It may also be important to help students explore what world views (unstated assumptions of reality and the values that govern the way we see the world) and dogmas are, how they develop, and shape our lives.

24. How do student backgrounds, interests and goals influence the teaching of sustainability?

Diverse student backgrounds, interests and goals serve to inform and enrich sustainability pedagogy. This diversity could be used for cross-learning - to identify topics for discussion, projects and the weightage given to various topics in the curriculum. For example, programmes where students from city colleges work together with their peers in rural government colleges can be a rich learning process for both. For this to happen, however, the curriculum must have adequate flexibility - those who may have the most experience with sustainable ways of living are generally excluded from representation in the curriculum design.

25. Are there advantages to people from different disciplines teaching sustainability, especially if they have opposite and conflicting perspectives to issues of sustainability?

For undergraduate students, there is value in presenting a cohesive narrative, while also introducing the idea of contradictory perspectives as a powerful way to present reality. For doctoral students, having faculty from different disciplines with conflicting perspectives may present them with an opportunity to deal with the potential confusion this can engender in their minds. This, in turn, may help them formulate and articulate their own positions with greater clarity (Also see answers to Q11 and Q12).

26. How do teacher values, attitudes and biases influence the teaching and learning of sustainability?

In a value-based subject, instructors may need to reflect on their positions and place them in the wider context of the debate by explicitly identifying their own normative positions and justifying them, without proselytizing in ways which prevent students from exploring their own positions. It should be possible for teachers to hold reflective conversations with students in which this normative position is contested or discussed, allowing for engagement and debate.

27. How do we make sustainability seem relevant to students in a largely unsustainable and capitalist world?

If sustainability is conceived as the rolling out of technologies to save the day, we may just need to churn out creative technicians. But if such technological optimism is recognised as being untenable, this becomes one of the trickier issues in higher education in sustainability. On the one hand, we may need to equip students with tools for cultivating an understanding of capitalism, while recognising the need to find work in this 'unsustainable capitalist world'. On the other hand, we may also need to encourage students to question mainstream thinking, and recognise the imperative to re-imagine this world-order. Perhaps it is important for students to see that the need to dwell on various options and trade-offs is inherent to the field of sustainability. Ideally, we'd want students to be able to combine pragmatism with the ability to think innovatively and creatively.

28. How do we enable students to engage with sustainability without feeling over-whelmed or cynical by its apparent ambivalence and complexity in practice?

It is essential to provide students with hands-on experiences of transformation in a diversity of real-life situations. This allows students to appreciate complexity; recognise the value of simple actions/changes; observe how change/innovation diffuses through individuals and society – from the small and incremental to the dramatic and crisis-based; and understand that policies to address long-term problems and short-term crises will differ.

IN SUMMARY

This discussion highlights the complexity of the idea of sustainability, beginning with its very framing and definition. Although defining sustainability is a challenge, any working definition to help frame this complex idea for educational purposes, will prioritize local concerns and contexts while drawing from the global discourse and experience. Workshop participants recognised the challenge of framing sustainability within the diverse contexts of development in the rapidly changing Global South; rather than as a post-development idea anchored in the Global North. In the context of the Global South, sustainability would necessarily include and integrate concerns of poverty, social justice and inequality which are often in tension with the goals of sustainable development. The limitations of sustainability as only an anthropocentric project were also deliberated.

The need (and ways) to balance theoretical rigor with field engagement and practice as a pedagogical approach in sustainability was critically examined. Teaching sustainability provides educational institutions with the opportunity to develop and test innovative pedagogical methods. This could include the radical idea of a course that is entirely inductive and problem driven – students begin with an issue/problem that then leads to a theoretical understanding. Alternately hybrid versions that mix different pedagogies, but are steeped in practice, could also be explored.

There was consensus on the idea that sustainability is by necessity a highly interdisciplinary and collaborative effort, involving interactions across academic disciplines as also between academics, practitioners and people. This collaboration is especially important considering that the multiple perspectives about sustainability cannot be adequately captured by any one discipline or group. What also emerged from these discussions is that sustainability as a process requires continuous reflection and re-tuning. Thus, it should not be seen as a defined outcome but as an approach to life-long learning and doing.

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