Chapter 6

Challenge Four: Strengthening Human Capacity

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The prior challenges have largely focused on needs for new physical systems, energy supplies, or financial resources. Yet as several recommendations above have implied, weak governance in generation and delivery of electricity are also undercutting South and Southeast Asian development ambitions. As one measure of this, the World Bank estimates that distortions in South Asia's power sector are decreasing the subregion's GDP by 4%–7%.[93] Findings from NBR's Pacific Energy Summit have also suggested that human capacity shortfalls have discouraged more aggressive adoption of renewable energy in various parts of the region, undercutting clean energy ambitions. A McKinsey Global Institute and Oxford study estimates that globally up to 375 million workers will need to reshape or upgrade their skills in the next decade, driven by automation and the demands of technological advances.[94] As countries in developing Asia seek to expand and upgrade their power sector, they must prepare for this coming shift in the labor market. Lags in skill training and other knowledge transfers, for example, have contributed to misconceptions amongst grid operators about existing means for managing greater reliance on variable sources.

Strengthening local- and national-level capacities in power sector management is thus critical to how South and Southeast Asia might be able to navigate (and take advantage of) recent market and technological breakthroughs. Energy storage, increased use of digitisation, and smart grid technologies hold immense promise for transforming the power grid, but such transformation must begin at the training and development level. These kinds of technologies can only work effectively when handled by well-trained workers, coupled with clear direction and coordination from policymakers to incorporate them.

As a starting point, workshop participants noted that related efforts may include discrete actions such as skill training or people-people exchanges that explore a wide range of topics (e.g., technical information, regulatory best practices, and operational management). Speakers emphasised the important role of universities in bridging the gap between the science and policy realms, particularly through public–private partnerships. Successful cooperative programs managed to synchronise the research vision of a public university with the viability of a private-sector business and establish trust between partners early in the process.

[93] Zhang, 'In the Dark,' 4.

[94] James Manyika et al., 'Jobs Lost, Jobs Gained: What the Future of Work Will Mean for Jobs, Skills, and Wages,' McKinsey Global Institute, November 28, 2017, https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages#.

Other participants noted that improved access to and investment in scaling up local datasets and technical resources should complement efforts. These provide power sector stakeholders with critical tools for improving decision-making.[95] Developing Asia contains a wide range of economies, with an associated range of power sector needs. Especially for electricity grids that span international boundaries, such as the proposed ASEAN power grid, collaboration and data sharing will be key to realising all the benefits that such regional integration can bring. Building a generalised, multilateral power market in the region will mean ensuring institutional capacity and updated training as much as grid harmonisation and other engineering requirements.

In terms of how these activities are executed, one workshop participant noted that acknowledging the human element in human capacity development is critical. More specifically, well-designed initiatives must take into account factors such as an individual's or group's potential resistance to change (e.g., the reluctance of experienced workers to learn new systems or institutional inertia when moving to a market-based power sector). The ability of operators and bureaucrats to grasp new knowledge and turnover amongst talented, highly competitive employees was also mentioned. One participant noted that this initiative could lead to opposition from trade unions if not handled properly. Institutional-level programs that focus on shifts in organisational culture and management – for example, that help identify and support rising stars and provide opportunities for mentoring – can yield significant, longer-term dividends that go beyond any one competency or skill set.

Finally, others noted that human capital development needs to be understood as an ongoing process rather than a series of one-off events. Providing initial training is important, but ensuring that insights and new techniques are absorbed and implemented requires follow-up actions. The accelerating pace of sector transformation also presents an ever-changing challenge. Consequently, workshop participants recommended that select tasks be thought of in terms of near-term and long-term needs.

In the near term, the impetus will largely lie in training those already on the job by focusing on new skills such as the ability to understand systems in real time, direct route supplies to where they are needed, and better integrate new technical knowledge. In the long term, there is a need to integrate new technology skills into early education and hold larger training sessions to adapt and transition existing skill sets across industries. Participants also suggested that the role for countries like the United States and Japan, as well as international organisations, would be to serve as models of successful modernisation, bringing high-level and technical exposure to how these investments would benefit developing Asia.

[95] Workshop discussions.