

Chapter 5 Cumulative-Level Impacts



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A. Introduction

This Chapter looks briefly at successive, incremental and combined environmental and social (including human rights) impacts from multiple projects or multiple ICT activities located in the same region or affecting the same resource.⁶⁵⁶ Consideration of cumulative impacts is of growing importance in regions where environmental and social systems have reached their maximum capacity to absorb and adapt to additional impacts (as may be the case in parts of neighbouring China),⁶⁵⁷ but they can also be equally as important to consider in regions that will undergo significant growth, as is the case in Myanmar.

The study of cumulative impacts is often associated with projects with a large physical footprint – extractives and infrastructure – rather than industrial sectors with a small footprint like ICT. The majority of the ICT value chain is service-based. Its cumulative impacts are mostly social and occur at the sectoral and societal level (see further [Chapter 3](#)). Nonetheless, the sector may still create cumulative impacts on the ground particularly given its projected growth trajectory in the country. These should be considered and addressed in future Government and company planning. Examples could include repeated digging of ducts for cabling, rather than the laying of a single duct for multiple users, or the erection of multiple towers in one location rather than shared facilities. Initial attempts by Government to encourage sharing of infrastructure (towers and power generation) were not successful due to the speed of the rollout and differences in business models between operators. However, the Government did take the initiative to bring the two operators together to discuss their site plans and encourage communication between tower companies to try to limit the number of duplicate tower sites in the rollout.

Infrastructure used in the ICT sector (buildings or network infrastructure) placed in proximity adds incremental impacts to other existing, planned, or reasonably predictable future projects and developments, leading to an accumulation of impacts. Environmental and social impacts from one project alone are not always significant. It is the building up of smaller impacts over time, or within the same physical footprint, that have a cumulative

⁶⁵⁶ Based on the definition in Franks, Brereton and Moran, “Cumulative Social Impacts,” in Vanclay and Esteves (Eds), *New Directions in Social Impact Assessment: Conceptual and Methodological Advances*, (2011). They are sometimes also referred to as “collective impacts.”

⁶⁵⁷ Ibid, pg. 202

effect. Sometimes a series of smaller events can trigger a much bigger environmental or social response if a tipping point is reached, changing the situation abruptly (e.g. where there is a rapid influx of people seeking jobs at, or in the vicinity of, newly established projects, the 'boomtown effect'). They can also be triggered by poorly designed policies that prompt companies to make the same mistakes over and over again.

The resilience of the environment or society to cumulative impacts depends upon both the nature of the impacts and the vulnerability (or sensitivity) of the society or ecosystem (i.e., the degree to which they are susceptible to and unable to cope with injury, damage, or harm).⁶⁵⁸ Cumulative impacts can be negative (e.g. outmigration due to cumulative land acquisition results in Government withdrawal of health services) or positive (e.g. cumulative economic developments in the area justifies opening of a public health clinic). In some cases, cumulative impacts can have both positive and negative effects.

If not managed, cumulative impacts can overwhelm environmental or social 'carrying capacity' to withstand or recover from the changes and result in human rights impacts. They can act upon:

- **Institutions** – the accumulated impacts overwhelm the local capacity to provide services, including protection or fulfillment of the population's human rights, such as education or health, providing remedies, or managing/changing the course of events
- **Society** – the rapid onset and acceleration of the changes overwhelms societal structures and capacity to manage change, which may eventually lead to a rise in tensions or violence and a potential breakdown in law and order
- **Environment** – the biophysical impact surpasses the environment's carrying capacity, with negative impacts on the right to water or other livelihood or health impacts.

B. National Context

As a first step in recognising that ministries and regional authorities need to consider cumulative impacts in the context of Myanmar's rapid development, the Framework for Economic and Social Reforms (which sets the medium-term strategy for Myanmar's development) identifies cumulative impacts as an important consideration:

*"Planners and policy-makers will need to consider the longer-term dimensions of a balanced strategy of economic, social, environmental and cultural development, recognising particularly that stakeholder groups can be affected simultaneously by projects or programs that are considered independently of each other without acknowledging their cumulative impact on particular stakeholders. Decision-making and monitoring processes will need to be open to such cumulative impacts. Taking a longer-term perspective may also help to resolve apparent trade-offs in situations where greater emphasis on equitable development in the short-term contributes to greater sustainability and economic growth over the longer term."*⁶⁵⁹

⁶⁵⁸ IFC, "[Good Practice Handbook on Good Practice Handbook, Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets](#)" (2013).

⁶⁵⁹ Government of Myanmar, "[Framework for Economic and Social Reform - Policy Priorities for 2012-2015 towards the Long-Term Goals of the National Comprehensive Development Plan \(FESR\)](#)" (January 2013), para 92. In addition, the current draft of the E(S)IA Procedure includes references to cumulative impacts, especially for complex projects

Myanmar has an ICT Master Strategy, but this strategy does not consider the regional implications of the strategy and therefore does not lay the groundwork for considering cumulative impacts of ICT developments in any particular areas. The regulatory framework for Environmental Impact Assessment (EIA) requires consideration of cumulative impacts although practice is as yet undeveloped. However, most ICT projects are unlikely to require an EIA in Myanmar unless facilities or infrastructure are located on land of special importance, such as cultural sites or national parks. Myanmar does not appear to have yet considered the steps it will need to take to deal with e-waste.

C. Research Findings

The ICT Master Plan identifies several developments that could lead to cumulative impacts.

ICT Parks

The ICT Master Plan sets out the intention to set up additional ICT Parks, building on the models of the Myanmar ICT Park in Yangon (established in 2001) and Yatanarpon Cyber City in Pyin Oo Lwin (established in 2007) which is currently underutilised. In 2015, the Myanmar Computer Federation announced that a new 300-acre ICT Park is to be constructed outside of Yangon in Thanlyin, noting that significant foreign investment will be needed to complete construction.⁶⁶⁰ Thanlyin is adjacent to Thilawa Special Economic Zone, south-east of Yangon. The Follow-up Report also suggests encouraging the development of such parks in other Myanmar's Special Economic Zones⁶⁶¹. The *SEZ Law* also provides for land acquisition and compensation to land users.⁶⁶²

As noted in the ICT Master Plan Follow Up Report,⁶⁶³ there are benefits for firms based in the ICT Parks. Colocation facilitates collaboration to resolve problems, initiate technology forums and seminars, and promotes networking.⁶⁶⁴ For such parks to be successful, the Follow Up Report suggests initial incentive policies such as providing discounts on land price, and abatement of lease rates, national and local taxes.

However concentrations of businesses in one area also create greater potential for negative cumulative environmental and social impacts, including the longer term impact of industrial activities within the area, transport infrastructure in and out of the zone, and demands on public services such as housing, healthcare and education for the workers and their families. In some countries, SEZ Laws reduce the labour protections for workers within the zones as further inducement to business. The Myanmar *SEZ Law* does not waive Myanmar labour requirements; however few Myanmar labour laws are in line with international labour standards (See [Chapter 4.6](#) on Labour). Moreover, there are concerns with the land acquisition and resettlement processes the various SEZs that could be repeated by large footprint ICT Parks.

Outsourcing

The Follow Up Report to the ICT Master Strategy notes that “*Myanmar’s ICT industry has strength in the software industry and being supplier of overseas companies’ ICT*

⁶⁶⁰ Eleven Myanmar, “[Thanlyin Picked for ICT Park](#)” (2015)

⁶⁶¹ Dawei, in the southeast of the country; and Kyaukphyu, in Rakhine State.

⁶⁶² See: MCRB, “[Land Briefing](#)” (March 2015), pg. 15.

⁶⁶³ MCIT, KOICA, ETRI, “The Follow-up Project of the Establishment of ICT Master Plan in Myanmar” (2011).

⁶⁶⁴ *Ibid*, pg. 165.

outsourcing demand by subcontract or dispatch'. It encourages ramping up Government demand as a way of stimulating both demand for such services and the supply of software engineers as well as deregulation to stimulate demand.⁶⁶⁵

Table 42: India Case Example on Business Process Outsourcing

After independence in 1947, India began to invest in institutes of higher education that provided high-quality science and technology training, producing tens of thousands of scientists and engineers. When India liberalised its economy in 1991 and started courting foreign investment, among the first companies to capitalise on the opening were information technology companies, which set up back offices, business process outsourcing (BPO) centres, and software development centres. Today, some 2.8 million people work in the BPO sector, and annual revenues exceed US\$11 billion.

The ICT sector has created well-paid jobs for India's skilled workforce and more critically, for Indian women. The labour force participation rate of women in India has traditionally been low – only about a third of Indian women are part of the organised labour force.⁶⁶⁶ There are many reasons for this, including early school dropout rate, particularly in rural India,⁶⁶⁷ pressure on getting young girls and women married early⁶⁶⁸ and early child-birth. Women represent some 40% of the workforce⁶⁶⁹ in the BPO sector, and their increased earning power has enhanced their social standing and shifted the power balance between the sexes.

However, many of these companies operate in export processing zones, where certain trade union rights are suspended⁶⁷⁰. That also means that some of the benefits employees can expect are not available, including, for example, health and maternity benefits in line with Indian laws. Moreover, many companies keep hours to align schedules with office hours in the West, which means some workers work on all-night shifts – which can have an adverse impact on family life and their economic, social and cultural rights.⁶⁷¹ Women who work night shifts or late hours have occasionally been assaulted sexually on their way home.⁶⁷²

The ICT sector has created job opportunities outside major metropolitan areas. Towns that want to attract BPOs have invested in creating infrastructure, including access to water and power for the industry, which has improved living standards in areas that previously did not have such infrastructure. Cumulatively, there are significant benefits for those who work at the centres and those who live in those towns, affecting many rights, including the right to an adequate standard of living,

⁶⁶⁵ Ibid, pg. 152.

⁶⁶⁶ ILO, "[India: Why is women's labour force participation dropping?](#)" (13 February 2013).

⁶⁶⁷ International Journal of Current Research, "[Reasons for rising school dropout rates of rural girls in India - An analysis using soft computing approach](#)" (24 May 2011).

⁶⁶⁸ "[Early Marriage In South Asia: A Discussion Paper](#)" (date unknown).

⁶⁶⁹ Dr. Kousar Jahan Ara Begum "[Women & BPOs In India](#)" *International Journal of Humanities and Social Science Invention* (May 2013).

⁶⁷⁰ Amandeep Sandhu, "[Why Unions Fail in Organising India's BPO-ITES Industry](#)" *Economic and Political Weekly* (14-20 October 2006).

⁶⁷¹ Dr. Sunitha V Ganiger "[Women in BPO's and its Impact on Family: A Sociological Analysis](#)" *Indian Journal of Research* (February 2014).

⁶⁷² India has harsh punishment for sexual violence, including the death penalty. See for example: The Indian Express, "[SC confirms death for Pune duo in rape, murder of BPO employee](#)" (10 May 2015).

and other rights associated with structured, formal employment, such as health benefits from companies that adhere to relevant laws.

The Report highlights the many benefits to the Myanmar economy including stimulating better education of software engineers, improving competitiveness, bringing the benefits of ICT to other sectors in the Myanmar economy. These many benefits should be weighed together with relevant regional experiences of the social impacts of developing a large sector of outsourcing services and considered as an integral part of the planning for such an expansion. While the job opportunities would provide an important step up the ladder, those developments should go hand in hand with ensuring decent work. The ILO is developing a Decent Work programme in Myanmar⁶⁷³.

Manufacturing

Currently, there is a limited ICT manufacturing in Myanmar, and the hardware industry is mainly based on trading and assembling. Limited manufacturing of fiber cable takes place at Yatanarpon Cyber City.⁶⁷⁴ The follow up to the ICT Master Plan suggests Government financial and administrative support to encourage ICT manufacturing, noting that “*lately Myanmar is becoming more attractive location as it has competitive salary level comparing to other countries*”⁶⁷⁵. It makes a case for developing a handset industry.

Moving up the value chain in manufacturing could provide significant benefits to the Myanmar economy. But Government planners should also consider the environmental, social and human rights impacts of developing manufacturing clusters in the ICT sector, considerations that are currently absent from the ICT Master Plan and the Follow-up Report.⁶⁷⁶ There are clearly economic benefits of developing manufacturing hubs. These need to be addressed together with the costs to the local environment, community and workers. There is increasing attention on the impact on human rights of the electronic sector in the global economy. This has prompted the creation of several multistakeholder and industry-led initiatives to address the rising legal and reputational challenges to the sector.⁶⁷⁷

D. Guidance on Cumulative Impacts

- IFC, “[Good Practice Handbook on Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets](#)”
- UNGC “[Business & Human Rights Dilemmas Forum: Cumulative Impacts](#)”

⁶⁷³ ILO, “[National Tripartite Dialogue: Presentation on Decent Work Country Program \(Myanmar\)](#)” (Dec 2015).

⁶⁷⁴ Zaw Min Htwe, “[Opportunities and Challenges for a Foreign Invested Company at Yatanarpon Cyber City, Myanmar](#)” (December 2011), p. 17

⁶⁷⁵ MCIT, KOICA, ETRI, “The Follow-up Project of the Establishment of ICT Master Plan in Myanmar” (2011), pg. 169.

⁶⁷⁶ See for example [GoodElectronics](#).

⁶⁷⁷ See for example the [Electronics Industry Citizenship Coalition](#) and [Global E-sustainability initiative](#).