

The Rio Conventions Pavilion Science Day on 5 September 2019 in New Delhi

The urban rural nexus

2007 was a historic year for humankind. For the first time in the 250 000 years or more of Homo sapiens history, more people were living in urban areas rather than on farms. Put differently, more people were now reliant on food grown by somebody else, rather than food that they had grown themselves. Whilst globally the rural population is anticipated to decline, the urban population is anticipated to continue expanding, being almost twice the rural population by 2050. Further, consumption patterns and waste are higher amongst the urban population. As such, though the urban population is decoupled from the land producing their food spatially, they have become the single biggest consumer of agricultural and other land products. As such they can be the biggest drivers of degrading land use practise. Despite subsistence farming still occurring in some areas, notably Africa, most farming is, at least in part, aimed at supplying the growing urban demand.

Transmissions from rural to urban dominance are occurring at different rates globally. Europe and Japan are far advanced in this progression, and in fact, rural agricultural abandonment is being seen as an important land degradation impact in these areas. Africa as a continent is globally the continent with the greatest anticipated population expansion and the continent likely to have the highest level of mega-city growth globally. Further, currently it has some of the highest levels of food insecurity.

Provision of meat for the growing and increasingly affluent global population has widespread degradation impacts. A large proportion of this meat is produced from stall-fed production systems, sometimes referred to as factory farms. For these farms to operate, extensive fodder crops are required, and at this stage it is estimated that over 30% of total global cropland is dedicated to fodder production. This is a historically major driver of cropland expansion, in part responsible for degradation and deforestation. These systems also produce extensive quantities of waste that can be polluting and degrading if poorly managed.

Urban centres place a number of additional demands on rural landscapes; they require extensive water inputs and produce high quantities of localized waste including polluted waste water. Power requirements are typically met from rural areas, causing both localised degradation and potentially wide spread degradation through air pollution. Climate change impacts, driven largely by urban demand, will undoubtedly have substantive impacts, some of which will affect rural dwellers in distant regions.

Although urban dwellers are decoupled spatially from the rural areas, they are almost totally dependent on rural areas for key ecosystems services including food provision, fibre provision, many of their fuels, clean water and fresh air. In addition, urban centres need to dispose of vast quantities of contaminated water, dirty air and both organic and inorganic waste. Much of this is exported into the rural areas. Urban and rural areas are therefore intricately interlinked, with much of rural land degradation emanating from pressures created by the ever-increasing urban demand.