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Determinants of terrestrial sand mining and its agro-ecological effects around Accra, Ghana

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Abstract

Sand is a crucial resource for urban development as it constitutes an integral part of the built-up environment. In Ghana, the increasing pace of urbanisation is driven by strong population growth, job opportunities in a quickly growing industry and service sector, and several push factors which induce migration from rural to urban areas. As a result, there is high demand for housing and other urban infrastructural facilities to meet the needs of an urban population. As in all major cities of the country, the main source of sand for the construction industry is from terrestrial deposits on farmlands of the rural and peri-urban city fringes. We used a mixed methods approach to examine the scope, regulation, and organisation of sand mining activities around Accra. Qualitative data were collected from key stakeholders involved in sand mining and through observation of the mining process. Trucks delivering sand to the city were counted at seven vantage routes. Our data show that on a daily average, 765 truckloads of sand are mined at a distance of up to 60 km around Accra, corresponding to about 4.55 Mio m³ or 12.1 Mio t or a mined area of 284.2 hectares annually. The cost-revenue structure along the supply chain of sand shows an uneven distribution of profits from this resource. While sand mining constitutes a highly profitable activity for landowners and sand miners, farmers, who are either pushed to distant locations in search for new lands or forced to give up their livelihoods, are little to not at all compensated. Illegal sand mining activities around Accra are fostered by complex bureaucratic and enduring licensing procedures, widespread bribery and corruption between miners and regulatory stakeholders, insufficient monitoring of miners, particularly at night, and short-term decisions of landowners. Even though sand mining is necessary for economic development, it puts a uni-lateral burden on local farmers and poses a threat to food security in the region.

Keywords: Natural resource extraction, sand winning, urbanisation