



Land take and Food Security at Global Scale

Ciro Gardi

University of Parma, Italy (ciro.gardi@unipr.it)

Soil is a limited, non-renewable natural resource, on which is based the 95th naturally fertile soils, suitable for a sustainable agriculture production, represent only a limited portion (13-18%) of the total land area of the Earth. On these areas are concentrated the majority of human presence and activities, leading to increasing pressures and degradation processes on soil. Land take and soil sealing, associated to urban expansion, is one of the most detrimental and irreversible degradation process, heavily affecting the food security at regional, national and global level. The current estimates of worldwide urban areas, with 1 km resolution, are ranging between 300,000 and 650,000 km². In this research we present an estimate of urban area growth, between 2000 and 2010, of 160,000 km².

Urban growth was estimated by population and GDP, which represent the main drivers of the process. The global impact on food security was estimate in 59.9 millions of tons of cereals, corresponding at 2.49% of the cereals yearly world production.