

# **Responding to Climate Change: Carbon Rights and Data Sharing Within Land Administration**

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**Key words:** Cadastre; Digital cadastre; Geoinformation/GI; GSDI; Climate Change; Carbon Market

## **SUMMARY**

Abstract: The 2007 Intergovernmental Panel on Climate Change (IPCC) Assessment Report states that the warming of the global climate on earth is mainly caused by Greenhouse gases (GHGs) especially carbon dioxide (CO<sub>2</sub>), which is absorbed and emitted naturally as part of the carbon cycle, through animal and plant respiration, volcanic eruptions, and ocean-atmosphere exchange. Additionally the mankind activities, such as the burning of fossil fuels and changes in land use, release large amounts of carbon to the atmosphere, causing CO<sub>2</sub> concentrations in the atmosphere to rise. As reported within the REDD+, the carbon rights as a part of other land rights have potentials for creating new markets and funds aimed at reducing carbon emissions or enhanced removals. This requires adequate integrated concept for land administration and timely sharing of relevant data among various institutions and the beneficiaries involved in the market including the vulnerable groups in the society. This paper analyses the integrated concepts and critical issues by reviewing existing literature on climate change, carbon and land use rights, and land administration with spatial dimensions to respond to climate change. Then we present geo-information requirements including sharing model, and finally we discuss the conditions, the roles and responsibilities of both institutions and beneficiaries using land administration in new market aiming at reducing carbon emissions for the positives effects on climate changes.