

Indirect Environmental Benefits from Cloud Computing Information and Communications Technology Integration in Rural Agricultural Communities

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Abstract : With rapidly expanding worldwide adoption of mobile technologies, Information and Communication Technology (ICT) is a major energy user and a contributor to global carbon emissions, due to infrastructure and operational energy consumption. The agricultural sector is also significantly responsible for contributing to global carbon emissions. However, ICT cloud computing using mobile technology can directly reduce environmental impacts in the agricultural sector through applications and mobile connectivity, such as precision fertilizer and pesticide applications, or access to weather data, for example. While direct impacts are easily calculated, indirect environmental impacts from ICT cloud computing usage have not been thoroughly investigated. For example, while women may be more poorly equipped for adaptation to environmentally sustainable agricultural practices due to resource constraints, this research concludes that indirect environmental benefits can be achieved by improving rural access to mobile technology for women. Women in advanced roles and secure land tenure are more likely to invest in long-term agricultural conservation strategies, which protect against environmental degradation. This study examines how ICT using mobile technology advances the role of women in rural agricultural systems and indirectly reduces environmental impacts from agricultural production, through literature examination from secondary sources. Increasing access for women to ICT mobile technology provides indirect environmental and social benefits in the rural agricultural sector.

Keywords : cloud computing, environmental benefits, mobile technology, women

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