Radio access model for universal service

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***Abstract*— This paper proposes a mathematical model as a decision tool for the choice of radio access solutions adapted to a geographical region through universal access. It integrates the formalism related to engineering radio network access in general as well as financial constraints imposed by the access and universal service funds. Services considered are voice and data services. This approach has helped to derive a general expression set for radio technologies. The coverage and capacity deployment strategy has also been combined to clarify the optimal implementation based on financial constraints. A case study on the Ouaddai region in Chad accompanied by simulations curves for wireless technologies as Wi-Fi, WiMAX and CDMA for example has shown the efficiency of such approach..**

***Keyword*— access network model, radio access model, universal access, universal service.**

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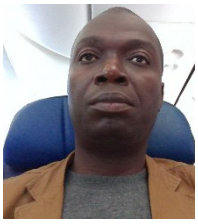

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