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This thesis is situated in the field of ICT4D and investigates how a mobile phone-based Agriculture Market Information Service (AMIS) can be designed and deployed to improve the situation for Bangladesh farmers. Although agriculture is the backbone of rural economic development, farmers in developing countries are among the weakest actors in their national economies. One constructive approach to improving their situation is to focus on the removal of various ‘unfreedoms’, thus allowing them to act more freely, make independent decisions and act on available opportunities. One fundamental way of removing unfreedoms is through information and knowledge – two key drivers of development - particularly Information and Communication Technologies (ICTs). This thesis uses a design science approach to explore the use of mobile phones in AMIS to empower farmers by increasing their bargaining position and allowing them more choices as to where and when to sell their produce.

Contributions include an increased understanding of farmers’ attitudes and preferences towards the use of technology in general and mobile phones in particular. Findings revealed several unfreedoms, including dependence on one market; dependence on middlemen for trading; low bargaining power because of the unavailability of reliable price information; and overall less flexibility regarding trading decisions due to information scarcity. Findings also showed that AMIS, as a constructive intervention, contributed to the farmers’ capability to participate in the decision-making process.