

論文審査の要旨

博士の専攻分野の名称	Ph.D.	氏名	ALAM MOHAMMAD
学位授与の要件	学位規則第4条第①・2項該当		JAHANGIR
論文題目			
Electrification with Solar PV Technology and its Implication to Educational Outcome: Empirical Evidences from South Asia			
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〔論文審査の要旨〕			
<p>The Energy Access Outlook 2017 (IEA) reports an estimated 1.1 billion people, 14% of the global population, does not have access to electricity and the solar PV is considered as one of immediate technologies to improve access to electricity in disadvantaged areas. In fact, the Solar PV has been provided by various international aid programs. For further large-scale deployment of the solar PV, two challenges have been addressed by this dissertation: (1) since amount of electricity generated and supplied by affordable solar home system is minimal, genuine benefits and impacts are not yet fully understood; and (2) desirable product design with new technical features of organic solar PV as next generation technology needs to be better understood.</p> <p>The dissertation consists of 5 chapters beginning with contextual background, motivation and objectives of the study justified by literature review in Chapter 1. Chapter 2 first addresses society-wide and long-term impacts of electrification on school education with available secondary data in Bangladesh, where a coupled method between matching technique and Markov Schooling Transition Model are proposed and applied. Chapter 3 applies propensity score matching to primary survey data for households between with and without solar home system (SHS), collected in non electrified villages at the northern end of Bangladesh. The study tries to quantify the impacts of small scale electrification with SHS on school educational performance. Then Chapter 4 examines potential future market of organic solar PV technology in one of sanctuaries of Chhattisgarh State in India, where development projects are highly restricted. The field survey for randomized conjoint experiments is conducted to study preference and needs of the proposed projects with use of organic solar panel for endogenous communities in the protected area. Finally, Chapter 5 summarizes main findings and concludes with the policy recommendations.</p> <p>As a part of findings of the dissertation, the applicant has published one refereed article in SCI journal.</p> <p>In conclusion, all the examiners unanimously judged that academic contributions of the dissertation in environmental economics and the achievements of the applicant are qualified for the Ph.D. of IDEC, Hiroshima University.</p>			