（様式８）
(Attached Form 8)

論文審査の要旨
Summary of Dissertation Review

博士の専攻分野の名称 Degree	博　士　（　農学　）	氏名 Author	GONG ZHE （巩　喆）
学位授与の要件	学位規則第４条第①・２項該当		

論　文　題　目　Title of Dissertation

Remote Sensing Based Monitoring for Land Degradation in Inner Mongolian Grassland

論文審査担当者　Dissertation Committee Member

主　　査 Committee Chair	Tran Dang Xuan(Associate Professor, Graduate School for International Development and Cooperation, Hiroshima University)	印 Seal
審査委員 Committee	Nobukazu Nakagoshi (Professor, Graduate School for International Development and Cooperation, Hiroshima University)	
審査委員 Committee	Kensuke Kawamura(Researcher, Japan International Research Center for Agricultural Sciences)	
審査委員 Committee	Teruo Maeda(Professor, Graduate School for International Development and Cooperation, Hiroshima University)	
審査委員 Committee	Zhang Junyi(Professor, Graduate School for International Development and Cooperation, Hiroshima University)	

〔論文審査の要旨〕Summary of Dissertation Review

Gong Zhe did a research by using different remote sensing facilities on examining the variation of land degradation, that threats to biodiversity, human health, and food production, in inner Mongolian grassland. She compared the efficacy and accuracy of using the remote sensors, including the EMD method, as compared with the conventional analytical instruments. The thesis included 7 chapers: General instroduction; Grassland phenology dynamics using long term NDVI data; Land use and land over change; Grassland phenology dynamics using moderate term data; Methodology improvement for detecting NDVI trend using EMD method; Estimation of herbage biomass and nutrient using band depth features; General discussion. All chapers are well structured with professional English and concrete data, collted over 30 years (1983-2014). It was observed that during 1993-203, the inner Mongolian grasland was degradated significantly. However, the vegetation increase was found in recent decade, especially in the desert steppe. By this research, band depth index derived from hypserpectral data is appropriate for estimating pasture parameters in low vegetation over area. Data from this research have been published in 2 international scientific journals (registered in Web of Science) as the first author. She also has a paper published as the co-author, in an international scientific journal at similar level.

After carefully examining the dissertation, the judging committee agree that Gong Zhe deserves to be awarded as a Ph.D of Agriculture.