

Title EXISTENCE THEOREMS OF THE GENERALIZED
EKELAND-TYPE VARIATIONAL PRINCIPLES AND
GENERALIZED QUASI-EQUILIBRIUM PROBLEMS

Author Kanokwan Sitthithakerngkiet

Advisor Professor Somyot Plubtieng, Ph.D.

Co-Advisor Assistant Professor Narin Petrot, Ph.D.
Assistant Professor Anchalee Kaewcharoen , Ph.D.

Academic Paper Thesis Ph.D. in Mathematics,
Naresuan University, 2013

Keywords Ekeland-type variational principles, variational principles
quasi-equilibrium problems, fixed point.

ABSTRACT

In this research, we introduce and establish the existence theorems for a new type of the system of generalized strong vector quasi-equilibrium problems, the vectorial form of Ekeland-type variational principle and the n -vectorial saddle point problem (for short VSP_n) which defined on n -dimensional saddle point where $n > 2$ by focusing only on the saddle point of order one. Under providently sufficient conditions, we also obtain the existence solutions of intersection between the set of all fixed points of the multi-valued mapping and the set of all solutions of vector equilibrium problem. Moreover, we discuss the closedness of strong solution set for the generalized strong vector quasi-equilibrium problems and the system of generalized strong vector quasi-equilibrium problems.