Krittayaporn Sumranpath 2014: Economic and Technical Assessment on Commercial Sericultural Production in Khon Kaen Province, Northeastern Thailand. Doctor of Philosophy (Agricultural Research and Development), Major Field: Agricultural Research and Development, Faculty of Agriculture at Khampaeng Saen. Thesis Advisor: Associate Professor Am-On Aungsuratana, Ph.D. 330 pages.

Silk is one of the most popular natural fibers in the world due to its special characteristics as luster and softness. It has been regarded as the "Queen of textiles". In Thailand, sericulture activities have developed as major occupation for income generation throughout the year. At present, modern technology and mechanization coupled with local wisdom have been used in commercial production both for domestic and international demand.

This investigation focused on assesses the economic and technical perspective. The main idea of the research was to provide a number of possible policy implications and recommendations towards commercial sericultural production. The benchmark survey in the form of interviewing schedule was obtained from 48 sericulture farmers in Hua Fai Village, PorDang subdistrict, Chonnabot district, Khon Kaen province through multistage sampling technique. An in-depth interview was obtained by collecting data from stakeholders. Descriptive statistics were frequencies, percentage, arithmetic means and standard deviation. Inferential statistics were employed by Cobb-Douglas production function, multiple linear regressions and Pearson product moment correlation coefficient to test hypothesis.

The findings revealed that positive factors affecting farmers' knowledge, practice and attitude in commercial sericultural production were number of sericulture information perception, number of contact agency and frequency of group participation. On the other hand, negative factor affecting farmers' attitude was sericulture production experiences. The main factors determining net earnings and net profit were number of contact agency, the opportunity cost of capital, cost of silk fabric weaving material and cost of mulberry leaf. The major factors determining yield were number of silkworm egg and mulberry leaf. The most important constraint was silkworm diseases.

Commercial sericultural production recommendation should focus on using skilled labor and appropriate technology in sericultural production, using the high yield variety of silkworm, producing silk product to meet the standard requirement, applying both technology and local wisdom. The strategic policy should focus on research and development in mulberry and silkworm diseases prevention, appropriate sericultural production patterns, main consumer demand assessment, setting marketing information center and empower more sericulture group networks. Innovations in terms of technology and local wisdom are in urgent need. Activities that should be continuously promote to farmers are mulberry planting, mulberry and silkworm disease prevention, weed control, silk yarn reeling, silk yarn dyeing and silk yarn preparation.

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