"มหกรรมงานวิจัยส่วนภูมิภาค ประจำปี พ.ศ. 2565
(Regional Research Expo 2022)"

สำนักงานการวิจัยแห่งชาติ (วช.) กระทรวงการอุดมศึกษา วิทยาศาสตร์ วิจัยและนวัตกรรม (อว.) เป็นหน่วยงานให้ทุนวิจัยและนวัตกรรมหลักของประเทศ และในบทบาทหน้าที่การส่งเสริมและถ่ายทอดความรู้เพื่อใช้ประโยชน์ รวมถึงสนับสนุนการพัฒนาบุคลากรด้านการวิจัยและนวัตกรรม ได้ให้ความสำคัญต่อการส่งเสริมการวิจัย การประดิษฐ์คิดค้น การถ่ายทอดนวัตกรรมและเทคโนโลยีไปสู่ภาคประชาสังคม และเพื่อเป็นการเผยแพร่ผลงานวิจัยและนวัตกรรมและกิจกรรมการวิจัยที่มีคุณภาพให้เป็นที่รู้จักในวงกว้าง และผลักดันไปสู่การใช้ประโยชน์ต่อการพัฒนาประเทศในด้านต่าง ๆ วช. จึงได้ริเริ่มจัดกิจกรรมการนำเสนอผลงานในเวทีระดับชาติ และขยายขอบเขตการจัดงานในเวทีระดับภูมิภาคต่าง ๆ เพื่อให้งานวิจัยและนวัตกรรม นำสู่สาธารณะได้อย่างเป็นรูปธรรมโดยการจัดงานมหกรรมงานวิจัยแห่งชาติ (Thailand Research Expo) เริ่มตั้งแต่ปี 2549 เป็นต้นมา

ในปี พ.ศ. 2565 มหาวิทยาลัยราชภัฏอุดรธานี เป็นเจ้าภาพการจัดงาน "มหกรรมงานวิจัยส่วนภูมิภาค ประจำปี 2565 (Regional Research Expo 2022)" ภายใต้แนวคิด **"นวัตกรรมการขับเคลื่อนเศรษฐกิจ BCG เพื่อการพัฒนาท้องถิ่นอีสานอย่างยั่งยืน"** ระหว่างวันที่ 27 - 29 เดือนพฤษภาคม พ.ศ. 2565 เพื่อเป็นกลไกขับเคลื่อนงานวิจัยและนวัตกรรมในพัฒนาท้องถิ่นอีสานอย่างยั่งยืน โดยการประยุกต์ใช้โมเดลเศรษฐกิจใหม่ (BCG) B - Bio Economy หรือ เศรษฐกิจชีวภาพ C – Circular Economy หรือเศรษฐกิจหมุนเวียนสอดรับกับแนวคิดเศรษฐกิจสีเขียว G – Green Economy สู่การสร้างความ

เข้มแข็งและการสร้างรายได้ เพื่อการพัฒนาท้องถิ่นอย่างมั่นคง มั่งคั่ง และยั่งยืนต่อไป

B14 : กลยุทธ์การจัดการสิ่งแวดล้อม สปป.ลาว (THE STRATEGY FOR ENVIRONMENTAL MANAGEMENT BY MEANS OF COLLABORATION BETWEEN THE RELEVANT SECTORS WITHIN VANG VIENG DISTRICT, VIENTIANE PROVINCE, LAO PEOPLE'S DEMOCRATIC REPUBLIC)

Globally, the environment has changed over time, with human activities being believed to be significantly responsible for the associated adverse impacts. Lao People's Democratic Republic (Lao PDR), as in many other countries, has encountered numerous environmental problems, particularly in those cities with tourism hotspots and intensive investment flows. In this research, the author was interested in studying the environmental problems emerging in Vang Vieng District, one of the world's most unlikely nature-based destinations, located in Vientiane Province, Lao PDR, hereafter referred to as Vang Vieng.

The main objectives of the research were: 1) to study the emerging environmental problems and the extent to where there had been meaningful collaboration between the relevant sectors regarding environmental management in Vang Vieng, 2) to formulate a strategy appropriate for environmental management by means of collaboration between the relevant sectors within Vang Vieng, and 3) to develop a manual for putting into action the strategy for environmental management in Vang Vieng. The current study was conducted as a research and development (R&D) project applying a mixed research method, using qualitative and

quantitative research approaches. The study was undertaken in three phases as outlined below: Phase 1: involved the study of the emerging environmental problems in Vang Vieng, together with a review of which there had been meaningful collaboration between the relevant sectors regarding environmental management in Vang Vieng. In this study, research was sequenced: firstly, qualitative research was conducted, followed by quantitative research. For qualitative research, 9 key informants from various sectors were selected, based on their knowledge and experience in environmental management in Vang Vieng. In-depth interviewing was conducted using an interview guide and a semi-structured interview (SSI) technique. Open-ended and subtopic questions were used while interviewing each key informant. The results were subject to data analysis, which was conducted using the triangulation technique and content analysis based on empirical information and secondary data. Following which, the quantitative research was carried out based on the findings of the qualitative research. In this study, the sample size was calculated using the Taro Yamane table at 5% error, and 398 respondents' (with 18 years of age onward) were determined using a simple random sampling by applying a lottery method. A questionnaire was specifically designed and used for gathering quantifiable data. The content validity was assessed at the item development stage using the index of item-objective congruence (IOC). The results of the assessment were in between 0.80-1.00 indicating the content validity. The reliability of the questionnaire was measured using Cronbach's alpha. The alpha coefficient of reliability was 0.908. The statistical data analysis including frequency, percentage, mean, and standard deviation was conducted using the SPSS program. Phase 2:

centered on the formulation of the strategy appropriate for environmental management by means of collaboration between the relevant sectors within Vang Vieng. In this study, 15 qualified people from various sectors were selected using the purposive sampling technique, based on their knowledge and experience in environmental management in Vang Vieng. Then, the content validity of the drafted strategy was assessed using semi-structured interviews.

The data obtained was analyzed and summarized using the content analysis method to present the overall findings. Following which, an assessment of the appropriateness and applicability of the formulated strategy was conducted. 30 experts from various sectors were selected for this study using the purposive sampling technique. The evaluation form, which contained a Likert rating scale for measuring the level of appropriateness and applicability of the strategy, was used for this study. Once again, the statistical data analysis including frequency, percentage, mean, and standard deviation was carried out using the SPSS program. Phase 3: focused on developing a manual for putting into action the formulated strategy for environmental management by means of collaboration between the relevant sectors within Vang Vieng was implemented, followed by the study of the level of satisfaction with the manual. 30 respondents in Vang Vieng were selected for this study using purposive sampling technique. A questionnaire, which contained a rating scale for measuring the level of satisfaction, was used for this study. As in phase 1 and 2, the statistical data analysis including frequency, percentage, mean, and standard deviation was performed using the SPSS program.

The results of the study showed that: 1. The environmental problems emerging in Vang Vieng included: 1) an increasing volume of municipal solid waste (MSW) and improper waste management, 2) emerging water pollution caused by improper disposal and management of MSW and effluent discharged from households, businesses and industrial activities into the Nam Song River, 3) diminishing air quality associated with pollution which has occasionally been caused by illegal slash and burn cultivation, forest fires, open burning of garbage, the increased use of vehicles, and industrial activities, and 4) further soil degradation. Regarding the review of collaboration between the relevant sectors on environmental management, the findings revealed that there was still a lack of continuous and consistent collaboration between public and private sectors, and local people onplanning, implementation, and monitoring and evaluation processes for environmental management in Vang Vieng. Concerning the study of the level of severity of the emerging environmental problems, the findings revealed that the increasing amounts of MSW, water pollution, air pollution and noise, and soil degradation were ranked number 1, 2, 3, and 4, respectively. Regarding the study of the degree to which collaboration had been taken place between the relevant sectors regarding environmental management, the results indicated that overall, the degree of collaboration was at a moderate level. The ranking, ranging from the lowest to the highest level, showed that the degree of collaboration on air pollution and noise management, the degree of collaboration on soil degradation management, the degree of collaboration on MSW disposal and management, and the degree of

collaboration on wastewater management were ranked number 1, 2, 3, and 4, respectively.

2. The results related to the formulation of the strategy for environmental management by means of collaboration between the relevant sectors within Vang Vieng showed that the strategy consisted of 1 vision, 3 missions, 3 goals, 3 key performance indicators, 3 strategic issues, 12 operational tactics, and 18 projects. Regarding the assessment of the appropriateness and applicability of the formulated strategy, the results revealed that overall, the strategy received a rating of very appropriate and applicable with a mean value of 3.59, indicating that the strategy was very appropriate, relevant, and applicable to solve the environmental problems emerging in Vang Vieng.

3. Regarding the development of a manual for putting into action the formulated strategy for environmental management by means of collaboration between the relevantsectors within Vang Vieng, the results showed that the developed manual consisted of 3 main parts, as follows: 1) introduction, 2) a strategy, and 3) guidelines for putting into action the strategy. Concerning the study of the level of satisfaction with the manual, the results revealed that overall, the manual received a rating of very satisfactory with a mean value ($\overline{X}$) of 3.62, indicating that the manual was applicable and relevant, and could be implemented as required

บัณฑิตวิทยาลัย มหาวิทยาลัยราชภัฏอุดรธานี

B15 : การมีส่วนร่วมในการจัดการสิ่งแวดล้อม สปป.ลาว
(THE STRATEGY DEVELOPMENT PARTICIPATION OF PARTNERSHIPS
NETWORK IN ENVIRONMENTAL MANAGEMENT FOR THE
ENVIRONMENT PROTECTION FUND IN BOLIKHAMXAY PROVINCE,
LAO PEOPLE'S DEMOCRATIC REPUBLIC)

The objectives of this research were 1) to study the Participation of Partnerships Network in environmental Management (PPM) for the Environment Protection Fund in Bolikhamxay Province, Lao People's Democratic Republic (Lao PDR), 2) to formulate a strategy on PPNEM for EPFN in Bolikhamxay Province, Lao PDR that can be implemented, and 3) to develop a manual for putting into action the strategy for Participation of Partnerships Network in environmental Management (PPM) for the Environment Protection Fund in Bolikhamxay Province, Lao People's Democratic Republic. The study utilized mixed qualitative and quantitative research methods and it was carried out in 3 phases: phase 1 research focused on studying the 5 elements of the participatory process and their importance by using the quantitative analysis method. A set of questionnaires identifying 5 elements with 5 levels of importance ranking was developed and sent to a sample group comprising 255 members of the EPFN in BKX. The correctness and appropriateness of the questionnaires were confirmed by 5 technical experts in the participatory process. Results from the respondents were analyzed using SPSS and were presented in the forms of frequency, percentage, average, and standard deviation. Phase 2 research focused on the development of a strategy on PEM which comprises 2 steps. Step 1 is the preparation of a draft strategy

on PEM using SWOT analysis and discussion through workshops with a sample group of 15 staff from international and national agencies. The process aimed to analyze the content and subject and conclude the results. Step 2 aimed to confirm the appropriateness and feasibility of the strategy on PEM by sending another set of questionnaires focusing on determining the appropriateness and feasibility of the strategy to the target group comprising 30 members of the EPFN in BKX. The correctness and appropriateness of the questionnaires were also confirmed by the 5 technical experts in the participatory process. Results from the respondents were analyzed using SPSS and they were presented in the form of frequency, percentage, average, and standard deviation. Phase 3 research focused on testing for satisfaction and appropriateness of guidelines for translating the strategy on PEM into actions by conducting 3 steps. Step 1 focused on the preparation of a guideline for translating the strategy on PEM into action and the target groups comprising 30 members of the EPFN and the research tool was the guideline for translating PEM strategy into action. Step 3 focused on asking a question on satisfactory assessment of using the guideline from 30 members of the EPFN by conducting technical workshops and application of SPSS and the results are presented in the form of an average and standard deviation.

Results from the research showed that: 1. The Participation of Partnerships Network in environmental Management (PPM) for the Environment Protection Fund in Bolikhamxay Province, Lao People's Democratic Republic (Lao PDR) from ranking (in order of importance) are 1. Participation in implementation, 2. Participation on benefits, 3 Participation

in the expression of opinions, 4 Participation in planning, and 5 Participation on M&E.

2. The formulate a strategy on PPNEM for EPFN in Bolikhamxay Province, Lao PDR Results from the development of a strategy on PEM comprise vision, mission, goal/target, and 5 strategies. Strategy 1 is to translate the EM policy to participatory implementation at all levels. Strategy 2 is to drive participatory on people benefits on EM. Strategy 3 is to promote participation in the expression of opinion on EM. Strategy 4 is to develop a participatory process on proactive planning. Strategy5 is to develop mechanisms, regulations, and PEM on M&E with governance. Results after undertaking a confirmation strategy suggested that both overall and individual elements have an average value higher than 3.51 which is considered acceptable based on the assessment criteria that has been established.

3. The development a manual for putting into action the strategy for Participation of Partnerships Network in environmental Management (PPM) for the Environment Protection Fund in Bolikhamxay Province, Lao People's Democratic Republic. Results from the utilization and assessment on PEM showed that every question is at a high level. Therefore, the guideline that has been developed by the researcher for translating the strategy on PEM can be applied to action.

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