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Evaluation of the project to develop an information system for promoting community health

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ABSTRACT

This study aimed to evaluate the Thailand Community Network Appraisal Program (TCNAP) during 2020-2022, utilizing a developmental evaluation framework based on the CIPP model. Data collection employed a mixed-methods approach. Methods included in-depth interviews and focus group discussions with 204 representatives from the Healthy Community Strengthening Office under the Thai Health Promotion Foundation (Thai Health), the Research and Development Community Health System Center, the Center of Community Database Management, and the Regional Center of Academic Support for Network Management. Quantitative data were collected through online surveys assessing the effectiveness of the TCNAP project from 376 delegates of the co-creation livable community network. Descriptive statistics were used for quantitative data analysis, while thematic and content analysis were applied for qualitative data. Results indicated that the project network expressed high satisfaction with the database usage, with a mean score of 3.99±0.76. It was observed that 8 out of 10 indicators successfully achieved their objectives. Additionally, the pragmatic utility of information derived from TCNAP was evident in formulating local development plans and garnering external support for enhancing community health and quality of life. This commitment to evidence-based practice is encapsulated by the phrase "Data equals stability." However, sustaining the implementation of the TCNAP project posed significant challenges. Proposed developmental strategies include organizing knowledge exchange activities, improving data collection tools and formats, and providing budgetary support tailored to the area context. Additionally, enhancing the operational system of TCNAP is crucial to ensure stability, convenience, efficiency, and adaptability for both current and future use.

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1. INTRODUCTION

Currently, databases related to the health and quality of life of people [1]-[4] in community areas are sourced from various agencies to achieve the Sustainable Development Goals (SDGs) [5]-[8]. These databases include the basic needs database (BMN), village-level basic information (KCC.2K), and the targeted human development data management system (Thai People Map and Analytics Platform: TPMAP) from the Ministry

of Interior [9]. Additional data comes from the National Statistical Office, providing census and housing information [10], [11], and the Health Data Center (HDC) of the Ministry of Public Health, which manages medical and public health data [12]. The Community Health Support Office also contributes through the Thailand Community Network Appraisal Program (TCNAP) [13], [14].

The Community Health Promotion Information System, initiated in 2009, integrates individual, family, and community information. It emphasizes the value of "data as security" through principles of self-collection, self-analysis, self-use, and ownership by local government organizations [15]. The system employs community research methods, such as the Rapid Ethnographic Community Assessment Process (RECAP), and has continued to evolve over more than ten years, gathering valuable lessons. The next phase aligns with the community health plan for 2023–2027, using the "Strategy for Strengthening Local Communities: S-2I (S2I)" to reinforce the "Strategy for Weaving Three Powers" of the Thai Health Promotion Foundation, which includes intellectual, social, and policy power [16].

The data system development project for community health promotion, undertaken from 2020 to 2022 by the Center for Community Data Management (CCDM) and the Academic Support Center for Regional Network Management, aimed to enhance the capacity of information systems to support the network's efforts in creating livable local communities [17]. The project set the objective to increase the capacity of information systems and programs to support the network in jointly creating livable local communities to their fullest potential. It also aimed to empower individuals to utilize the program and support data use in the community health development process through public health policy creation and issue-specific campaigns [18]-[21].

Therefore, advancing the information system to promote community health is essential. The project's processes and outcomes should be systematically evaluated to develop strategic proposals for enhancing these information systems [22]-[25]. The evaluation concept is illustrated in Figure 1. The conceptual framework used for the developmental evaluation encompasses the planning, implementation, and participatory summary phases. The assessment framework employs the CIPP model, which includes context (C), input (I), process (P), and product (P) evaluations, as shown in Figure 2.

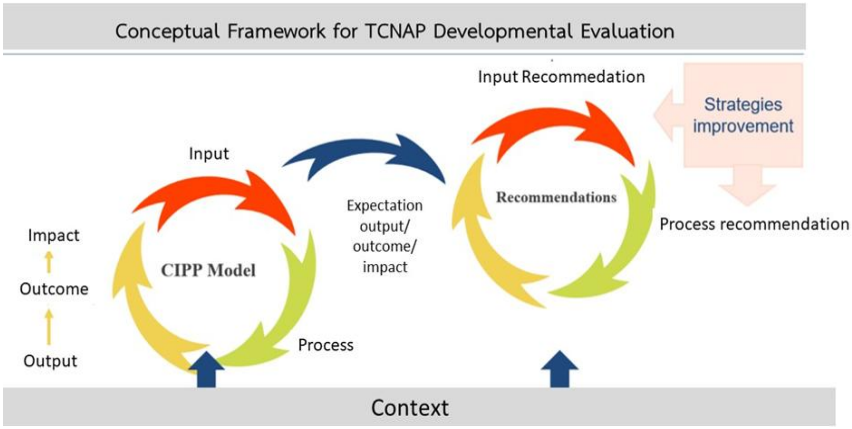

Figure 1. Evaluation conceptual framework

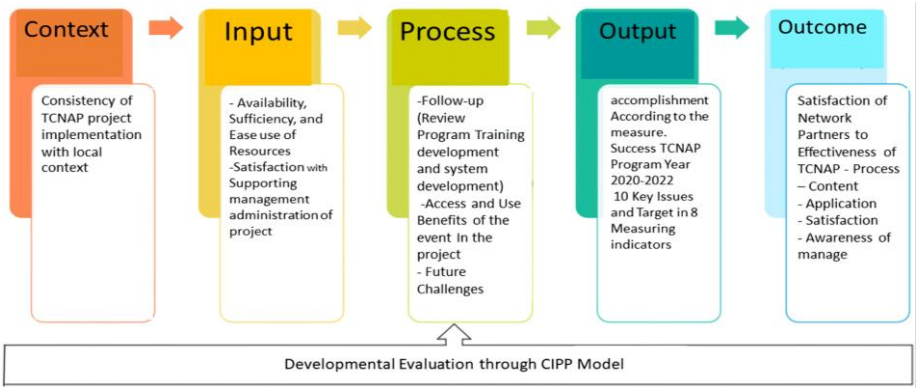

Figure 2. Issues in evaluations

2. METHOD

This research aims to analyze the systematic changes resulting from the project implementation according to the CIPP model concept and to develop strategic management proposals for advancing information systems for promoting community health.

2.1. Research methodology

The research methodology employed evaluation research methods [26] based on the concept of developmental evaluation using the CIPP model [27], [28]. Data were collected using a cross-sectional mixed-methods approach, incorporating quantitative and qualitative data. This included in-depth interviews and group discussions with central, regional, and local project organizers to gather qualitative information. Quantitative data were collected using an online questionnaire to evaluate the effectiveness of the information system for community health promotion.

2.1.1. Population and sample

The population and sample in this study were divided into three groups [29]:

- Group 1: Central and regional project organizing teams, consisting of the Community Health System Research and Development Center, the Subdistrict Health Data Management Center, and the Academic Support Center for Network Management, totaling 15 people.
- Group 2: The project organizing team at the local level, consisting of the community health information system development committee in the sub-district area, representatives from local government agencies, and civil society leaders covering eight areas: Chiang Mai and Uttaradit (Northern Region), Maha Sarakham and Ubon Ratchathani (Northeast Region), Kanchanaburi and Chachoengsao (Central Region), and Phatthalung and Songkhla (Southern Region), totaling 204 people. Purposeful sampling was used to select individuals who could communicate and share their opinions and experiences and were willing to participate in in-depth interviews or focus group discussions.
- Group 3: The network to create livable local communities that have operated or are operating in developing information systems for promoting community health from 2020 to 2022, totaling 3,914 places. This includes 378 learning centers and 3,536 locations across the northern (17 provinces), northeastern (20 provinces), central (25 provinces), and southern (14 provinces) regions of Thailand.

Sample size calculation using Daniel and Cross formula [29] with a 95% confidence level resulted in a minimum sample size of 350 places. An additional 10% was collected to prevent data loss, totaling 383 places. The sample was selected using a systematic random sampling method, ensuring representatives could legally consent and were willing to participate in the research [29].

Sample access: Public relations methods were used to engage learning center representatives and networks to create livable local communities. Electronic letters and emails from the Faculty of Public Health were used to publicize the project, clarify objectives, and explain the research process via QR codes. Participants provided their willingness to participate before answering the questionnaire. The sample group, covering all regions of Thailand, participated in answering the online questionnaire, with 376 locations agreeing to provide information.

2.2. Measurement tools

According to developmental assessment guidelines, the tools used in this assessment were developed based on studying document information and designing the evaluation scope in collaboration with the evaluation team and project organizers [28]. The tools are divided into three sets:

- In-depth interview questions: For central and regional project organizers (Group 1), focusing on process issues, performance, and future challenges, totaling 10 questions.
- Group discussion questions: For project organizers at the local level (Group 2), covering project initiation issues, processes, performance results, and future challenges, totaling 11 questions.
- Online questionnaire: For the network group creating livable local communities (Group 3), assessing the effectiveness of the TCNAP information system. This questionnaire consists of three parts: personal information and agency details (8 questions), information on the effectiveness of the TCNAP program regarding operational results, utilization, and satisfaction (22 items), and information on perceptions of operations, problems, obstacles, and suggestions (10 items).

The tools were assessed for content validity by three experts specializing in databases, public health, and information system operations in the area. The index of item objective congruence (IOC) for the qualitative data collection questions was 1.00, while two items in the online questionnaire achieved an IOC of 0.67. All other questions received an IOC of 1.00. To evaluate the reliability of the satisfaction questions, the online questionnaire was tested with a sample of 30 individuals from local government organizations in Chonburi Province who were not part of the network. The Cronbach's alpha coefficient was 0.82.

2.3. Data collection

The qualitative data was collected through in-depth interviews and group discussions with central, regional, and local project organizing teams. Quantitative data was collected using online questionnaires distributed to network groups, creating livable local communities. A systematic random sampling method was used, publicizing via QR codes and letters requesting cooperation. The sample included 383 locations, with 376 locations agreeing to participate, covering all regions of Thailand.

2.4. Data analysis

The collected data were checked for completeness and accuracy before being analyzed as follows:

- Quantitative data analysis

Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to describe the general characteristics of the sample and the level of satisfaction with the effectiveness of the TCNAP information system. This analysis was performed using ready-made computer programs.

- Qualitative data analysis

The project's results were explained according to the CIPP model evaluation framework. This involved analyzing the essence of the data through content analysis to categorize it and summarize the project evaluation results.

3. RESULTS AND DISCUSSION

3.1. Results

3.1.1. Characteristics of interview and focus group informants in the operating areas of the network to create livable local communities

The sample group for group discussions in the eight target areas consisted of 204 participants, with 165 responding to the personal information survey (80.88%). Most of the sample were women (n = 108,65.45%), with an average age of 48.45±12.34 years. Among them, 37.58% were civil servants or government employees, with an average of 4.73±3.33 years of experience participating in information systems for community health promotion. Additionally, 67.88% had 1–5 years of experience, and 40.61% served as part of the data collection team.

3.1.2. Characteristics of informants from a survey of representatives of the network for creating livable local communities

The data survey results from a sample group of 376 locations using the TCNAP program revealed that 68.62% of the participants were women. The majority were aged 40–49 years (41.22%), with an average age of 39.87±8.85 years. They were primarily data custodians at the sub-district level, with 67.82% having started using the TCNAP program in 2023. Of these, 44.41% used the program continuously, and the database was last updated in 2023 for 50.80% of the respondents, with 32.18% updating in 2024. The TCNAP program was used monthly by 28.99% of the participants.

Regarding the role of the agencies, 68.88% were part of the community health subdistrict network, followed by the Community Health Subdistrict Network Management Center (CCSA) at 18.35%, the Special Issue Network Coordination Center/OCLO at 10.11%, learning centers/schools at 1.60%, and the Specialized Community Health Network Management Center/NCCC at 1.06%. The LINE channel was the primary means of coordination with TCNAP program administrators (69.41%) and the Academic Support Center for Regional Network Management (69.15%).

Challenges and satisfaction with the TCNAP program. When considering the problems encountered with the TCNAP program, 78.19% reported issues with program instability, 13.56% faced inconvenience in use, and 8.24% had problems accessing the program. The sample group's opinions on the effectiveness of the TCNAP program highlighted high satisfaction levels across various aspects ($\bar{x}$ => 3.51). Overall satisfaction with the TCNAP program services was rated highly (mean score of 3.99±0.76). Specific aspects such as the clarity of messages in the program (mean score of 4.04±0.71), appropriateness of the program (mean score of 4.01±0.72), satisfaction with learning exchange activities (mean score of 4.05±0.73), and curriculum and training manual for using the program (mean score of 4.01±0.73) were also rated highly, as shown in Table 1. When considering the overall satisfaction with the program services in conjunction with the continued use of TCNAP data, it was found that 80.35% of users continued to use TCNAP data at high to very high levels, as shown in Table 2.

Table 1. Opinions about the effectiveness of the TCNAP program (n = 376)

Item	Opinion level					Mean ($\bar{x}$)	S.D.
	Highest n (%)	High n (%)	Middle n (%)	Low n (%)	Lowest n (%)		
Process aspects of using the TCNAP program							
1 Easy-to-use formatting	78 (20.74)	172 (45.74)	108 (28.72)	14 (3.72)	4 (1.06)	3.81	0.84
2 Access to the program is easy and fast	65 (17.29)	183 (48.67)	101 (26.86)	16 (4.26)	11 (2.93)	3.73	0.90
3 Speed of display	54 (14.36)	174 (46.28)	106 (28.19)	29 (7.71)	13 (3.46)	3.60	0.94
4 Convenient to view and search information	73 (19.41)	184 (48.94)	98 (26.06)	16 (4.26)	5 (1.33)	3.81	0.84
5 Data in the program is safe	99 (26.33)	188 (50.00)	82 (21.81)	7 (1.86)	0 (0.00)	4.01	0.75
Content of information from the TCNAP program							
6 Information meets needs.	101 (26.86)	207 (55.05)	63 (16.76)	5 (1.33)	0 (0.00)	4.07	0.70
7 Information is useful for making decisions.	114 (30.32)	211 (56.12)	47 (12.50)	4 (1.06)	0 (0.00)	4.16	0.67
8 The information is accurate, clear, and reliable.	100 (26.60)	203 (53.99)	67 (17.82)	4 (1.06)	2 (0.53)	4.05	0.73
9 Participate in activities in the program.	108 (28.72)	216 (57.45)	48 (12.77)	4 (1.06)	0 (0.00)	4.14	0.66
In terms of using data from the TCNAP program							
10 Quickly interact with the database.	79 (21.01)	185 (49.20)	85 (22.61)	19 (5.05)	8 (2.13)	3.82	0.89
11 The information is useful and can be further developed.	127 (33.78)	201 (53.46)	43 (11.44)	5 (1.33)	0 (0.00)	4.20	0.68
12 Become an on-demand resource.	112 (29.79)	206 (54.79)	55 (14.63)	3 (0.80)	0 (0.00)	4.14	0.68
13 The information in the program is ready for use.	95 (25.27)	212 (56.38)	63 (16.76)	6 (1.60)	0 (0.00)	4.05	0.69
14 Speed of program execution.	77 (20.48)	180 (47.87)	82 (21.81)	26 (6.91)	11 (2.93)	3.76	0.95
Satisfaction with the TCNAP program							
15 Suitability for using the program.	89 (23.67)	208 (55.32)	72 (19.15)	6 (1.60)	1 (0.27)	4.01	0.72
16 A beautiful and interesting program.	93 (24.73)	185 (49.20)	92 (24.47)	5 (1.33)	1 (0.27)	3.97	0.75
17 The text in the program conveys a clear meaning.	96 (25.53)	204 (54.26)	72 (19.15)	3 (0.80)	1 (0.27)	4.04	0.71
18 Clarity of work steps in the program.	83 (22.07)	204 (54.26)	85 (22.61)	3 (0.80)	1 (0.27)	3.97	0.71
19 Satisfaction with the curriculum and training manual for using the program.	92 (24.47)	206 (54.79)	70 (18.62)	7(1.86)	1 (0.27)	4.01	0.73
20 Satisfaction with the program user manual.	91 (24.20)	210 (55.85)	65 (17.29)	8 (2.13)	2 (0.53)	4.01	0.74
21 Satisfaction with knowledge exchange activities under the program.	98 (26.06)	209 (55.59)	60 (15.96)	8 (2.13)	1 (0.27)	4.05	0.73
22 Overall satisfaction with using the program services.	93 (24.73)	199 (52.93)	73 (19.41)	10 (2.66)	1 (0.27)	3.99	0.76

Table 2. Overall satisfaction with using the TCNAP program and continuity of data use (n = 376)

Overall level of satisfaction with using TCNAP program services	Scenarios using TCNAP data			
	Continuous (n = 285)		Discontinuous (n = 91)	
	Total (areas)	percentage (%)	Total (areas)	percentage (%)
Highest	84	29.47	9	9.89
High	145	50.88	54	59.34
Middle	48	16.84	25	27.47
Low	7	2.46	3	3.30
Lowest	1	0.35	0	0.00

3.1.4. Results of the evaluation of input factors (Input: I)

Input factors can be classified into two categories: internal and external. Internal input factors include "people" or operational personnel from four leading organizations: local government organization network partners, local government departments, government agencies, and civil society organizations. Workers must be inspired, determined, and committed to the common good. As the Thai Health Promotion Foundation specifies, team management and clearly defined roles are essential. Personnel need knowledge, skills, and experience, with regular team meetings to plan, follow up, evaluate, and interact.

> *"Once the working group was appointed, the orders were already in place. Each team has different work roles. When I come to work, it works. I can do it."* (Code F001)

> *"There is not much space to store data in our municipality. We already have a community committee that works with us. We can divide teams to work according to their roles and responsibilities. We have village health volunteers who help us, which saves us much energy because village health volunteers*

already know well about community health. The community committee can use our information to manage the area according to the risk problems that occur directly." (Code F007)

Additionally, external input factors include operating budgets and knowledge support, especially training and mentoring from the Thai Health Promotion Foundation, which helps local personnel gain knowledge, understanding, and guidelines for the TCNAP work process.

"The budget is no problem. No matter how much he gave me, I tried to use it. We have a clear plan. We must manage according to the budget that he has given us." (Code F003)

"Technically, TCNAP has been set up to be similar to the Royal Thai Army in that we must collect data annually, updating at least once a year. The Thai Health Promotion Foundation budget is like lubricating oil, making our workspace more efficient. It may not be a budget that can be used directly." (Code F009)

"Before we collected data, we had a meeting to discuss the test. From our understanding, we did it in our house before going to the area to build another house. Where we collect data, we bring friends who are village health volunteers, making it convenient to collect." (Code F002)

"Before collecting actual data, my aunt, the president of the village health volunteers, invited the Permanent Secretary to study how we could implement this in our country. We collected data in our village before storing it in the area. The municipality provides knowledge about the lifestyle of the place we are going." (Code F005)

3.1.5. Process evaluation results (Process: P)

The important mechanisms driving TCNAP can be divided into five main steps:

1) Creating understanding for the leading groups of the four main organizations.

"The fact that we work in the municipality means that we must care for and help people in the area. We focus on our brothers and sisters' health and quality of life. We cannot help at this point if we do not know the information." (Code F005)

"We wanted to learn about working with the Thai Health Promotion Foundation. The administrators were very excited when there was a project for us to learn about working with other municipalities. I want change to come from our community. This is where we received the budget to store information in the sub-district. By storing, analyzing, using, and owning it ourselves." (Code F008)

2) Building a team according to the given instructions.

"Setting up various working groups starts with the administration department. The data storage, verification, and leadership departments use the information. All these departments come together here. As I continued to drive, I went to learn with the Thai Health Promotion Foundation's network." (Code F002)

"Our area is different from other places. We are driven by the village headman, not by local administrative organizations. We coordinate with four parts: local administrative organizations (subdistrict municipalities), localities, and citizens." (Code F003)

3) Creating learning or enhancing potential through various methods.

"Training before collecting data in the area helps people understand the questionnaire and ask questions correctly. If we read it to them, they will not answer us. We have to understand it first or try it out." (Code F002)

"Everyone who collects information from TAT and the community must undergo training to understand the questionnaire and learn through hands-on practice in the area." (Code F004)

4) Collecting, recording, and checking data in the TCNAP program.

"The village health volunteers were the main source of data collection in 2016 and 2019. Most village health volunteers collected information from TCNAP and the Community Health Volunteers. Village health volunteers secretly whispered that TCNAP data was more detailed and realistic." (Code F007)

"We call this type of work 'Tri-Palang,' meaning that every division director is a manager who acts as a coach for the community. There are young officers in their division, which is a middle-level team, and there is a community team or 'bumiputra,' people hired to work in their own community." (Code F004)

"Municipal officials mainly record information. About 3–4 people are working together. If the community has collected and inspected it, we will gradually record it until the number is complete. The most important piece of information is the ID card number. If even one digit is wrong, the data cannot be saved further." (Code F008)

"When assigned to be a recording team, we enter information into the computer as accurately as possible. Many keys help each other, but I'm not sure that others will key like us. We do it separately without prior training. If there are problems, we'll talk in the LINE group." (Code F006)

"The village headmen and village headmen assistants serve as an inspection team. We check to see if every house is complete and if the information is true. We will know since we have already done the information for the Civil Service Commission." (Code F002)

"As the director of the department who is also a coach for the community, I have to check whether all the information is complete. If it is incorrect, I check it from the book and edit it to make it correct and complete before sending it for data entry." (Code F004)

5) Analysis and use of data from the TCNAP program.

"After entering all the data, it will be processed into data, graphs, and a summary of each topic. In the Subdistrict Administrative Organization, we will know where to expand. This work will be included in the subdistrict's development plan for the next budget. The Subdistrict Administrative Organization and Subdistrict Health Promotion Hospital will already be working together on health information." (Code F002)

"Using data, we will pull the overall, village, and topic information and separate it into points. We prepare information for each aspect, making diagrams to make it easier to see." (Code F005)

3.1.6. Performance evaluation results (Product: P)

The output resulting from driving TCNAP results in successful operations according to the goals set in developing programs that meet the needs of the area. This includes creating a concrete structure for the subdistrict information system, preparing community health status reports, and developing training courses and learning materials for online training. Most outputs were achieved according to the set goals, with only minor exceptions. For example, the training center for subdistrict information systems achieved 57 of the targeted 60 locations, and the TCNAP PLUS program developed three of the targeted five programs.

There are two critical outcomes: changes in individuals and the community or sub-district area. The TCNAP working group has improved personnel knowledge, attitudes, and potential, significantly raising their abilities. Local government organizations could use information from TCNAP to prepare local development plans that meet the area's actual needs, receiving support from various agencies, such as establishing a physical therapy center and creating community enterprises.

"TCNAP information is beneficial for local administrative organizations. We use NHSO funds, which are small funds (local or area health insurance fund or subdistrict health fund) that we can use to act on health matters more directly. After meeting with villagers, we use this information to recognize problems and plan to develop proposals to solve health problems." (Code F005)

"The clear concept of using data is seen in data on bedridden patients who need physical therapy. We presented the information to the hospital, and they accepted it. We worked together to open a local physical therapy center, reducing the cost burden for siblings. They no longer need to travel far for physical therapy." (Code F006)

3.2. Discussion

The Information System Development Project for Community Health Promotion (TCNAP) has been in operation since 2009 and continues to progress. Current projects (2020-2022) focus on reviewing and developing the program's capabilities to support extensive application usage from the network to create livable

local communities. The evaluation applied the CIPP model to assess projects from 2020–2022. Key findings include:

- Contextual aspect

The network collaborates in creating livable local communities through local government organizations, such as municipalities and sub-district administrative organizations. High-ranking executives, including the Prime Minister, Deputy Prime Minister, and Permanent Secretary, play crucial roles in deciding to participate in this project. Their interest highlighted the opportunity for local communities to implement the principles of self-management of data [18]. This approach involves collecting, analyzing, and using data independently. Currently, local administrative organizations need to possess their own databases, which may limit their ability to access and use information effectively. However, local governments can manage data storage. In that case, they will develop greater trust in the information, analyze data more easily using local capabilities, understand community costs better, and utilize the information for local development. This fosters a sense of ownership over the database [30].

- Input factors

The local government has not allocated additional manpower for this project. However, a crucial resource for this work is the human resources within the area, which come from four main organizations: local government organization networks, local government departments, government agencies, and civil society organizations. The personnel must be dedicated, inspired, and determined, working together for the common good. This is consistent with the analysis of the health management base in the area, which found that participatory management under holistic development, both at the individual and organizational levels, results in effective collaboration [29], [31]. Additionally, input factors from outside the area include operating budgets and knowledge support. Specifically, training and mentoring support from the Thai Health Promotion Foundation helps local personnel gain knowledge, understanding, and guidelines for the TCNAP work process. This support strengthens personnel through regular team meetings to plan, follow up, evaluate, and create continuous team interactions [32], [33].

- Process side

The implementation process can be divided into five main steps: i) creating understanding among the leaders of the four main organizations, ii) building a team according to the given recommendations, iii) creating learning or enhancing potential through various methods, iv) collecting, recording, and using data from the TCNAP program and checking data within the TCNAP program, and v) analyzing and using data from the TCNAP program. These steps are considered the main mechanisms of TCNAP operations, beginning with understanding the objectives and main principles of creating a sub-district information system by local administrative organization administrators. Local people are empowered to collect, analyze, use, and own the data. The plan involves forming five teams: the management team, the data collection team, the data verification team, the data recording team, and the team responsible for analyzing and using the data [18].

3.2.1. Performance results covering production, results, and effects

The output from implementing TCNAP has led to successful operations according to the goals set for developing programs that meet the needs of the area. This includes establishing a concrete structure for the subdistrict information system and using the data to prepare community health status reports and case studies. Additionally, the development of training courses and the creation of learning and teaching materials for online training and learning have been achieved. Most outputs were realized according to the set goals. However, the training center for developing sub-district information systems, which specializes in developing and using actionable data, achieved 57 of the targeted 60 locations, and the TCNAP PLUS program developed 3 of the targeted 5 programs.

There are two important outcomes: individual and area-level results. The TCNAP working group has significantly improved personnel's knowledge, attitudes, and potential, allowing them to enhance their abilities effectively. At the area level, changes have occurred in the community, agencies, and sub-district areas. Local government organizations were able to use information from TCNAP to prepare local development plans that meet the goals and actual needs of the area. This information was also used to receive support from various agencies for area operations, such as establishing a physical therapy center and creating community enterprises based on cost perceptions. This approach strengthens personnel and local government organizations, making them better equipped to handle routine community health management [29] and critical events, such as disaster situations [18].

The implementation of TCNAP encourages the participation of all government agencies and the private and public sectors to use reliable information from a unified database. This systematic approach is reflected in the logical model, which posits that good processes lead to good results. The area has learned to analyze and use data to plan, implement, and continuously monitor and evaluate [27]. As a result, TCNAP operations have led to various awards, such as the King Prajadhipok's Award, the Good Governance Award, and the Outstanding Local Administrative Organizations Award for Model Information, bringing great pride to the area and personnel [34]-[36].

4. CONCLUSION

Under the network to create livable local communities, the sub-district information system development committee should consider the feasibility and appropriateness of driving TCNAP sustainably in the sub-district area. This involves improving the sub-district-level database to be current and reflective of the actual situation in the area. Additionally, expanding TCNAP's operations to nearby areas should be considered to achieve broad information linkage and integration of work using empirical evidence. This will lead to the concrete implementation of large-scale operations at the next level. The data development project for promoting community health (TCNAP) should foster participation with networks to create livable local communities. It is important to consider developing the TCNAP program's operating system to ensure stability, convenience, and speed, making it capable of supporting more applications both now and in the future. Workshops on creating information systems for promoting community health should be organized as a primary activity for developing local government organization network teams.

The Health Promotion Foundation (Thai Health Promotion Foundation) is the primary agency responsible for developing information systems for community health promotion. It has taken steps to create values emphasizing that "information is security" for local government organizations, under the principles of self-management of data by local communities (self-collection, self-analysis, self-use, and ownership). However, to ensure continuous operation, the direction of policymaking should be reconsidered to establish TCNAP operations as the policy of the decentralization commission and as a mandatory indicator for local government organizations. This will help drive the expansion of results and increase the participation of local government organizations; by providing a forum for exchanging knowledge and showcasing performance results of using TCNAP and TCNAP Plus in the area regularly and continuously is essential. This includes expanding the network's participation to create livable local communities and demonstrating the importance of having and using TCNAP data at the district level, facilitated by the District Quality of Life Development Committee (CPC) or other district-level committees; given the existence of various databases, if integrating people's database operations will enhance efficiency and effectiveness, it should be proposed that the Ministry of Interior be the main agency responsible for integrating the primary databases in local communities with relevant agencies.

In this research, the evaluation team focused on participation and encouraged knowledge exchange and collaborative evaluation development between the evaluation team and the project organizing team. Consequently, the evaluation scope was designed to cover four essential issues according to the CIPP model. However, qualitative data acquisition was based on purposive sampling to obtain a sample of TCNAP operators during the evaluation period. This approach may have limited access to samples that were previously or are not currently operating continuously or have never operated TCNAP. Even if quantitative information is available, it may not be possible to explain in detail the concepts or operational methods of the areas within the network to create livable local communities.

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ETHICAL APPROVAL

This evaluation project received research ethics approval from the Human Research Committee of Burapha University (Approval No. IRB1-085/2566). The evaluation team ensured respect for human rights and dignity without violating rights or welfare. The project did not pose any danger to the participants. Participants had the right to decide whether or not to provide information and could withdraw from the study at any time without any loss of benefits or consequences. Participation was entirely voluntary.

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