

CHAPTER 5

Theoretical Criticism Related with Relation of Complex Factors and Community Forest Management

To study Stagnation of Community Forest Management: A Case Study of Nam Kian Sub-District, Phupiang District, Nan Province, has objectives to study development of forest management in Nam Kian Sub-district, Phupiang District, Nan from initial period to the present and utilize a paradigm to explain community forest management in context of Dynamism and Complexity. This study uses mixed method to collect data of both primary and secondary data, map data and forest ecological condition survey including applying questionnaires and particular points of interview with the relevant people which are community leader, forest direct and indirect utilizer, religious leaders, children and youths, housewife and elders group by examining connected data according to actual facts.

For seeking knowledge, analysis is applied to understand facts of phenomena through interpretation and data utilization of geographical information and ecological condition survey under the conceptual frame and questions to comprehend complexity of phenomena and explain dynamism of factors affecting pattern alteration between community forest utilization and management by dividing issues of consideration according to periodic frame for 3 periods which are 1.Community during the settlement period, 2.Community during the expansion period, and 3.Community in the present time period. The result of analysis was presented in Chapter 4 and it would be linked analysis for 3 periods in this chapter as follows;

- 5.1 Factors affecting pattern alteration of community forest utilization and management
- 5.2 Analysis of Dynamism of Complex Factors Affecting Community Forest

Management in Nam Kian Sub-district and Pattern Alteration of Relation of
Forest Utilization and Management from the Past to Present

5.3 Theoretical Criticism and Suggestion

The researcher would present content by details as follows;

**5.1 Factors affecting pattern alteration of community forest utilization
and Management**

Nam Kian is a small community consisting of 5 villages. In the past, people had lifestyle with forest binding and reliance to be essential fundamental factors to live and most community survival directly depends on the forest for holistic existence. So, relationship of people and forest continued with balance with resources supporting people's living of 3 locations such as 1) Pha Pae Bon Na Forest 2) Pha Huay Lom Forest 3) Pha Khun Kian Forest existing in administrative area of Fai Kaew Sub-district, Phupiang District and they are watershed forest in which villagers used water from Nam Kian river which is main river for consumption and utilization for long time. This resulted in community with culture and living that was closely bound with the forest.

To understand phenomena of community forest utilization and management of how the complex relation is, the researcher brought relevant factors in table 5.1 to show the connection which can be separated to 3 periods as follows;

Table 5.1 Factors affecting pattern alteration of community forest utilization and Management

Issues	Phase1:Community establishing settlement (2463 B.E.– 2510 B.E.)	Phase 2: Community expansion (2511 B.E.- 2540 B.E.)	Phase 3: Community in the present time (2541 B.E.2556 B.E.).
1. Forest Ecological characteristics	1.1 Forest Ecological characteristics. - There are three community forests; Pa Pae Bonna, Pa Huay Lom and Kunkian. At that time, there was no forest boundary. These community forests had diversity of flora and fauna. 1.2 The structure of the forest. - The characteristic of the forest was a mixed deciduous forest and mixed dipterocarp forest.	1.1 Forest Ecological characteristics. - Kunkian forest was still plentiful, while Pa Pae Bonna and Pa Huay Lom began to be deteriorated. - The ability to produce water was decreased. - State started to manage the forest. -The boundary of the forest began to be cleared.	1.1 Forest Ecological characteristics. - Pa Pae Bonna and Pa Huay Lom have been deteriorated. - Biodiversity has been declined. - The ability to produce water has been dropped dramatically. - The boundary of the forest has been cleared.

Table 5.1 Factors affecting pattern alteration of community forest utilization and Management (Continued)

Issues	Phase1:Community establishing settlement (2463 B.E.– 2510 B.E.)	Phase 2: Community expansion (2511 B.E.- 2540 B.E.)	Phase 3: Community in the present time (2541 B.E.2556 B.E.).
2.Land Use	2.1 Land and land holdings <ul style="list-style-type: none"> - Settlement: There were small populations. Later on wetland areas were used for rice farming and more people migrated to the area. - Used the slope area for upland rice plantation - Used the community right and complexity of right - Started having a road for carts or wagons. 	2.1 Land and land holdings <ul style="list-style-type: none"> - The increase of the population, settlement and infrastructure. - To extend the farmland into the forest to grow crops. - Started having exclusive right. 	2.1 Land and land holdings <ul style="list-style-type: none"> - Unable to expand the farmland. -Exclusive right -Transform the properties for loans (Mortgage / purchase - sale / guarantor). -Land use for an intensive production in dimension of space and time.

Table 5.1 Factors affecting pattern alteration of community forest utilization and Management (Continued)

Issues	Phase1:Community establishing settlement (2463 B.E.– 2510 B.E.)	Phase 2: Community expansion (2511 B.E.- 2540 B.E.)	Phase 3: Community in the present time (2541 B.E.2556 B.E.).
3.Economy	3.1 Subsistence and semi-subsistence economy <ul style="list-style-type: none"> - Community economy. - Subsistence. - No markets in the community. Started having a market in the district town. 	3.1 Introduction to the economic system of capitalism. <ul style="list-style-type: none"> - Fully Introduction to the economic system of capitalism and markets. -Trading by using "money" as a major factor. -Started competitions and a new consumerism. -Started collecting debts. 	3.1 Fully capitalist economy. <ul style="list-style-type: none"> - Access fully to the market economy and capitalism. - A financial institutions from the outside. - The new consumerism. - The new values. - Having debts.

Table 5.1 Factors affecting pattern alteration of community forest utilization and Management (Continued)

Issues	Phase1:Community establishing settlement (2463 B.E.– 2510 B.E.)	Phase 2: Community expansion (2511 B.E.- 2540 B.E.)	Phase 3: Community in the present time (2541 B.E.2556 B.E.).
4.Production	4.1 Subsistent Production System - Subsistent Production System in wetland rice and upland rice - Used the community power for production - Production for consumption and sharing / exchange. - Used the local wisdom for production.	4.1 Semi-subsistence and semi-commercial production system. - Semi-subsistence and semi-commercial farming of rice, crops, and cash crops. - Started using technologies in agriculture. - Production for consumption, sharing, and sale. - Gave up rice farming. - Started having professions outside the agricultural sector.	4.1 Production of semi-subsistence and fully commercial production systems. - Fully commercial production system (Rice / corn / rubber / crops after rice farming). - A non-agricultural occupations. - Use of technology. - Use of inputs and time intensively.

Table 5.1 Factors affecting pattern alteration of community forest utilization and Management (Continued)

Issues	Phase1:Community establishing settlement (2463 B.E.– 2510 B.E.)	Phase 2: Community expansion (2511 B.E.- 2540 B.E.)	Phase 3: Community in the present time (2541 B.E.2556 B.E.).
5.A sense of community	5.1 Characteristics of the community. <ul style="list-style-type: none"> - Independent from the state. - Having a high sense of community. - A strong kinship. - A natural leader. - No monopoly power of family group. -A strong relationship between the generations 	5.1 Characteristics of the community. <ul style="list-style-type: none"> -Introduction to the mechanism from the external and the development projects of the state. -The sense of community began to disintegrate. -Lifestyle focused on professions, committed to "Money" - hustle / high competition. -The leaders were shifting and the disintegration of thought. -A big gap between the generations. -Individualism. 	5.1 Characteristics of the community. <ul style="list-style-type: none"> - The community has been separated - Individualism

Table 5.1 Factors affecting pattern alteration of community forest utilization and Management (Continued)

Issues	Phase1:Community establishing settlement (2463 B.E.– 2510 B.E.)	Phase 2: Community expansion (2511 B.E.- 2540 B.E.)	Phase 3: Community in the present time (2541 B.E.2556 B.E.).
6.Forest exploitations	6.1 The characteristics of exploitations -No controls. The forest exploitation was independent completely. -Sustainable use with high biological diversity and wisdom. - The exploitations for consumption and multipurpose and multidimension	6.1 The characteristics of exploitations - TFPs and NTFPs were controlled because diversity decreased. -The exploitations for consumption and multipurpose and multidimension were declined and it started for sale.	6.1 The characteristics of exploitations - The formations of exploitations have been changed. There have been no TFPs and NTFPs have reduced and objectives have changed. And dimensions of utilization have been a Mono purpose and Mono dimension which is mainly about water.

Table 5.1 Factors affecting pattern alteration of community forest utilization and Management (Continue)

Issues	Phase1:Community establishing settlement (2463 B.E.– 2510 B.E.)	Phase 2: Community expansion (2511 B.E.- 2540 B.E.)	Phase 3: Community in the present time (2541 B.E.2556 B.E.).
7. Management	<p>7.1 Tools</p> <ul style="list-style-type: none"> - A freely community forest management that was controlled by sacred beliefs, spiritualism, customs, traditions, and public rights - Note: The condition of the ecosystem with an abundance of land use, production, economy, a sense of the community, utilization, and management were perfectly correlated in holistic way together with the ways of production, including cultural rules and wisdoms as controllers to the utilization of resources. 	<p>7.1 Tools</p> <ul style="list-style-type: none"> - Intensive forest management and the potential to solve the crisis of shortage of "water", the limitations / capacity of the soil - water - forest -There were an intangible - ordination of forest- a tangible - soil, water, forest management activities -Creating consciousness / awareness. 	<p>7.1 Tools</p> <ul style="list-style-type: none"> - Management has reduced to water as a major issue. - Use technology in forest management and irrigation according to project plans, program, activities (Tangible). - Use the community's rules, wisdom and power as a supplemental tool (Intangible).

5.1.1 Complex Relation Affecting Community Forest Utilization and Management in the 1st Period

The ecological condition of forest in Nam Kian Community during settlement was the period the forest had most fertility; so, villagers who came first settled and utilized the land by building houses in plain area and grew rice in low land. When the amount of population increased but plain land for rice growing was limited and to produce rice enough for household's living needed land expansion toward area of hillside to farm additionally from original rice farm. Although land preemption that time did not have control but land utilization was supposed to be public right or complex right mixed with household legitimacy. Villagers mutually perceived necessity with acceptance as land area was dramatically available and after then the road was built for carts connected to Muang District and neighboring villages but it did not affect balance of land utilization and forest utilization.

For forest utilization, villagers were freely interdependent from the forest without control as the forest was fertile and amount of population was not much. They could utilize the forest in Multi Dimension with multipurpose and most gained production was for consumption and share and in the forest, there was necessity for living in many terms sufficiently especially for 5 terms which were 1) Timber Forest Products: TFPs utilization for building houses and woods used as energy and utility in public activities 2) Non-Timber Forest Products: NTFPs with many kinds of foods in season and during the rainy season, forest was abundant with utmost amount of food. Villagers had ability and knowledge to collect and utilize which resulted in plant replacement with balance 3) utilization in water form for consumption 4) Land utilization for agriculture and pasture and 5) utilization for rituals, relationship between people and forest was close and comprehensive as advantages and needs of each household living directly depend on the forest.

Production system in community was production for living and after that, villagers grew rice with circulation farming with family members as labors mixed with community collaboration for production and whole products would be consumed in household and for the surplus, it would be shared and exchanged. The production process needs reliance on nature which is not certain some years. Therefore, growing

plants would be linked to belief dimension via rituals by using supernatural power to make a wish for good productivity.

Economic system in settlement period was community economic system without marketing system. Villagers relied on resources in community which had fertility so as to have four requisites which are necessary to make living. But for economic status and living, mostly it was similar and for next period, they started to bring forest products and trade in Muang District to buy necessities in family for living more than gaining profit.

Community in first period was free from government and outsiders. Way of life of people in community was close and bound with kinship and had firm relationship with ways of interdependence, assistance and compromise with ruling mechanism by nature leader and elderly system. They had no domination by any lineages with high unity because of good leader and members and good relationship between generations. This resulted in solidarity to initiate collective effort to manage all matters in community especially forest management. With fertile resources with production system and economy for living and strong community, forest management was performed as the original way. That is to say, there was no certain determination of forest boundary with villagers' concept that they had belief and fear on sacred and intangible power. Custom of villagers toward nature could be reflected through rituals such as using regulations according to community tradition and local intellect so as to emphasize, control and monitor moral norms so that villagers could perform to the forest in holistic way under the limitation of sufficiency.

For relationship between people and forest with the way that conforms to forest, the community acted to natural resources with respect and humility and it had regulations to maintain and preserve resources that were related to way of life as essential terms and this led to mutual maintenance and preservation on forest.

As details in figure5-1, relation of complex factors affecting community forest utilization and management in Nam Kian sub-district in the 1st period.

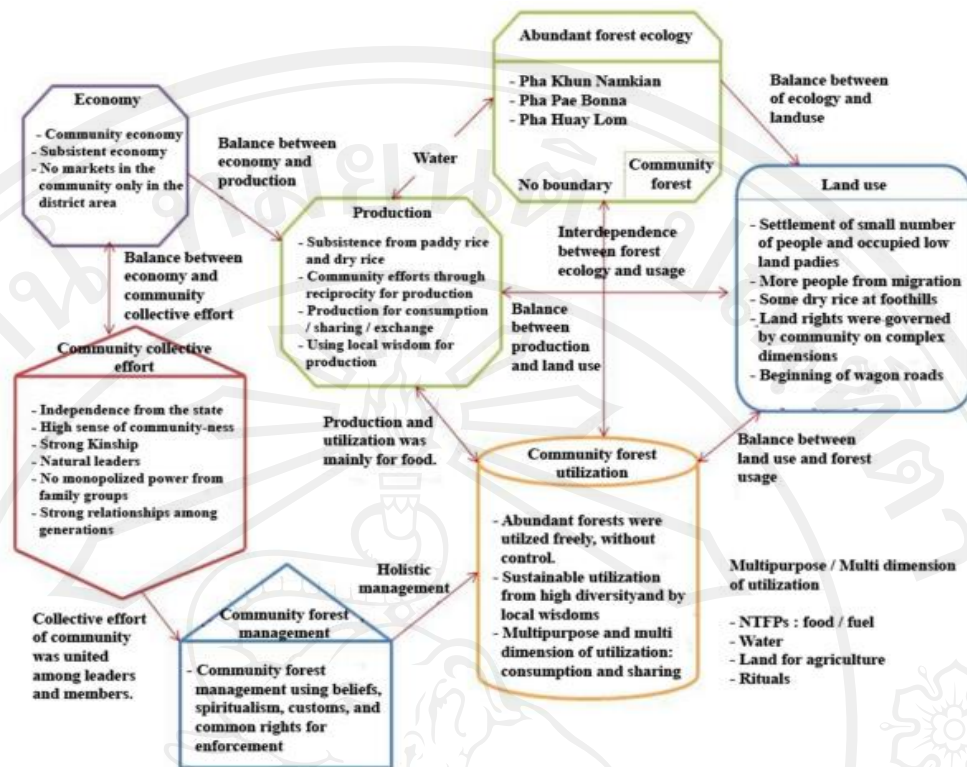


Figure 5.1 The relation of the complex factors affecting community forest usage and management of Nam Kian community in the first period

5.1.2 Complex Relation Affecting Community Forest Utilization and Management in the 2nd period

In period 2, Nam Kian Community started becoming capitalism economy under the support of government sector and it was the period of trading with “money” to respond consumption and new trend. Villagers started having debt and changing pattern of production from production system for living to semi-living production and they grew rice and farmed many kinds of plants. Besides, they started using water in production as well as doing other jobs along with production so that they could earn “money” and build up good status with higher consumption. Later, rice farming was canceled and land was utilized to expand the area of making a living in woodland; after entrepreneurs in Muang District left the area, Government’s development project started developing infrastructure resulting in convenient transportation and commute with more interaction with outsiders. Moreover; lands were traded and ownership and single-mixed right on land happened.

From activities that led to intense land utilization from trespassing of local entrepreneurs, land expansion for earning a living and infrastructure system development, they affected ecology of 3 forests with deterioration, decreasing of biological diversity and lack of water. Meanwhile; in such period, population expansion increased; so, this affected the pattern of forest utilization becoming intense dependence with more benefit gained from the woods in terms of Timber Forest Products: TFPs and Non-timber Forest Products: NTFPs freely as rules and regulation were unavailable and pattern of collection was for trade more than consumption.

For community that started changing, after the incoming of outside mechanism and government development project, it was an important turning point by rural community started becoming semi—city community and pattern of living was replaced by new things and way of life focused on earning income and having good status. Every one in every level started struggling for survival.

Furthermore, in term of administration, it was changed to Local Administrative Organization (LDO) causing original authority system and relationship turn into administration system of government leader and this led authority and terms the community could take care to the mechanism depending on

government. Mechanism system of nature leader started separating and turning into public politics with more competition.

Original institutions such as temples, schools and the elders who used to bind people in community were affected by development that focused on income competition to respond consumerism and it faded community which was full of binding and generosity with exchange labor and relationship of people who used to help each other in the past faded away. They started living individually and relationship between generations and community with members became alienated. Community was divided and complex connected problems could be found and the way of community which had strength and power with binding of people in community to be solidarity became weakened and this caused collective effort and community management especially forest management diminished.

For situation of deterioration of 3 forests, it started affecting community especially problem of lack of water along with prior problems that have been complexly connected. This stimulated community to seek for the “leader” to solve crisis problems of resources and social problems simultaneously and it realized limitation of forest decrease that started signaling impacts on community. With these reasons, it was driving community leader and members to give precedence to forest management and urgently find measures to preserve and specify new terms to control forest utilization with sustainability and there were strict rules and regulations to manage forest at the end of period 2.

Equipment and tool used to manage community forest consisted of both intangible management dimension and tangible management dimension from dedication and assembly of people in community who participated in solving water crisis and forest deterioration for one moment, the result of management started being mitigated; the forest was restored and commission put their full effort. In such period, forest management of Nam Kian Community was the duration of potential with mostly productive operation.

To manage community forest in period 2, changing of complex factors that were related to 5 factors could be seen. They started moving for change and they affected community forest utilization and management and it could be seen attempt for adaptation of villagers who gave precedence to economic terms. This phenomenon

could make us see the process of forest management of villagers that were getting themselves out of the issue that used to be limited for only community power and culture and intellect to be more complex connected issues as in details of complex factors in figure 5.2.

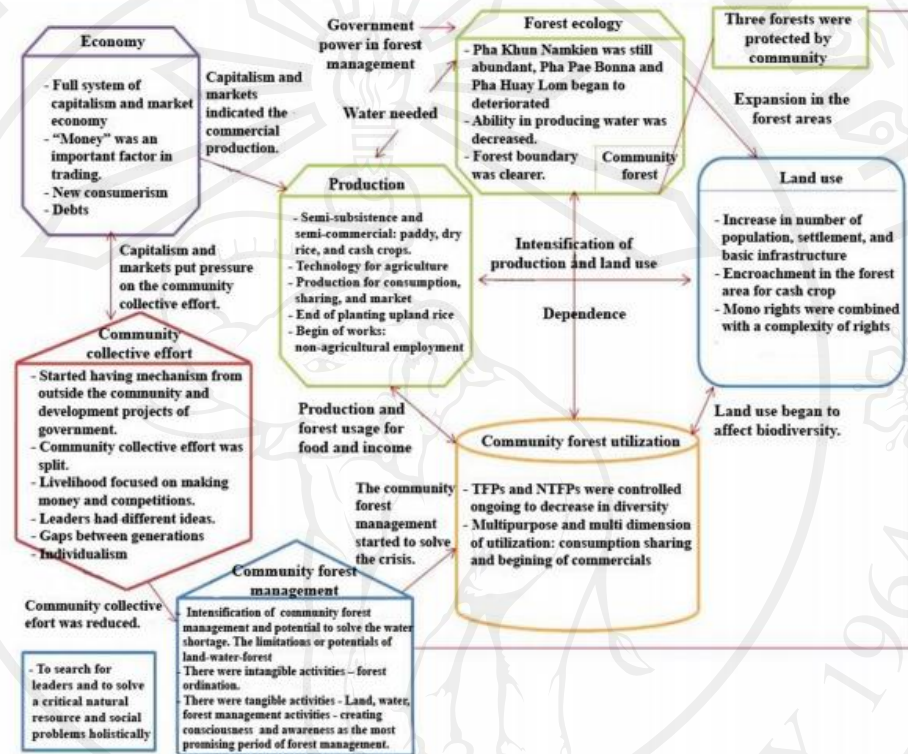


Figure 5.2 The relation of the complex factors affecting community forest usage and management of Nam Kian community in the second period.

5.1.3 Complex Relation Affecting Community Forest Utilization and Management in the 3rd period

It is the period community focused on becoming full capitalism economy including new ways of development through populism policy of the government which has efficiency to stimulate people to compete making “money” to respond consumption and new trend and debts were supposed to be normal for living. From the economic system that give precedence to value of “money”, this affected specifying production pattern for full commerce and semi-living such as growing rice, farming corn, growing rubber tree and planting many kinds of vegetables which required more water for production. Meanwhile, community consisted of various careers along with production so as to earn “money” which comes along higher consumption.

For utilizing the land that could not be expanded because of forest limitation but it could be found intense land utilization in the same plot in each year and land possession had quality of individual ownership or single right that could transform properties to the capital.

Forest utilization: objectives of usage changed to “water” need for consumption and utilization (mono dimension) and usage pattern was changed; for example, Timber Forest Products: TFPs were ceased due to the regulations but Non-Timer Forest Products: NTFPs were diminished due to higher amount of population including forest deterioration causing kinds, amount and types of food plants decreased and scarce with farer transport. However, after the community mutually maintained and managed the forest and it became restored but utilization in terms of food and herb of villagers decreased as most of the time, they had to do the task in farm and had no time left enough to collect forest products.

Besides, it was found that new generation people had alternatives to do various careers and had their own goals which were not agricultural careers. Meanwhile, way of life of most people in present did not rely on forest benefit directly like the past but it was just additional factor that relieved living in fundamental level. Therefore, forest utilization could be found in only some groups that seek for forest products and made a trade.

For community, it changed so quickly and way of life, relationship in family and community had gap between values of people in family with different generation and more individuality. Besides, relationship between generations was alienated with terms of difference of status and careers.

For community forest management especially Khun Kian Forest, later, activity operation was decreased with less intense including management method in intangible dimension of tradition and rituals the community used to mutually do strictly becoming faded but for tangible dimension of management, it could be found that the meeting decreased, forest survey, coordination with other connections, youth camp for Khun Kian Preserve arrangement decreased due to the fact that they lacked of budget for activities as well as situations of mutual problems which were more complicated and other problems related to living which were more essential and urgent. This caused participation of public and forest-related activity design had less intense.

To succeed and sustain knowledge about forest was not continual as most young people deserted hometown and lacked of transmitting knowledge about forest continually and new generation people did not continue and community forest discussion was limited in only leader group and people who directly gained benefit from the forest as in figure 5.3

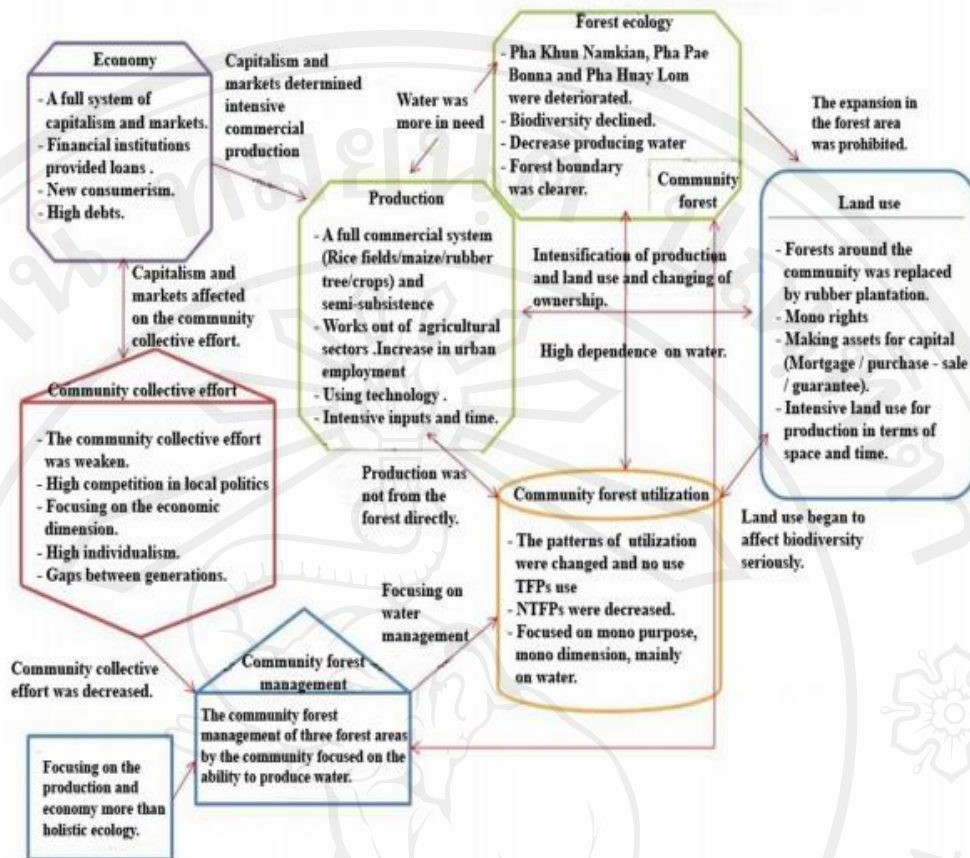


Figure 5.3 The relation of the complex factors affecting community forest usage and management of Nam Kian community in the third period

5.2 Analysis of Dynamism of Complex Factors Affecting Community Forest Management in Nam Kian Sub-district and Pattern Alteration of Relation of Forest Utilization and Management from the Past to Present

From analyzing complex relation of factors that were presented in 5.1, it was an analysis showing complexity of phenomena but there was one more essential issue which was dynamism. This study was deemed necessary for analysis and the researcher used 5 complex factors affecting community forest utilization and management which could make us see relation in periodic dimension.

Data gained from accumulation was analyzed by the researcher to find the relation of first 5 complex factors about how they affect 2 later factors in each period by analyzing and showing dynamism of community forest utilization and management which could be done from nearly complete data although quantitative data could not be sufficiently provided especially phenomena in the past that were mixing 5 complex factors and 2 factors to show the line displaying dynamism of change of community forest utilization and management according to the period in horizontal axis. The researcher then assessed magnitude from both quantitative and qualitative data in 7 factors that reflected change in each period and then found the relation about how much each factor changed relatively and it could be separated into 3 periods in form of graph to show dynamism of each factor as follows,

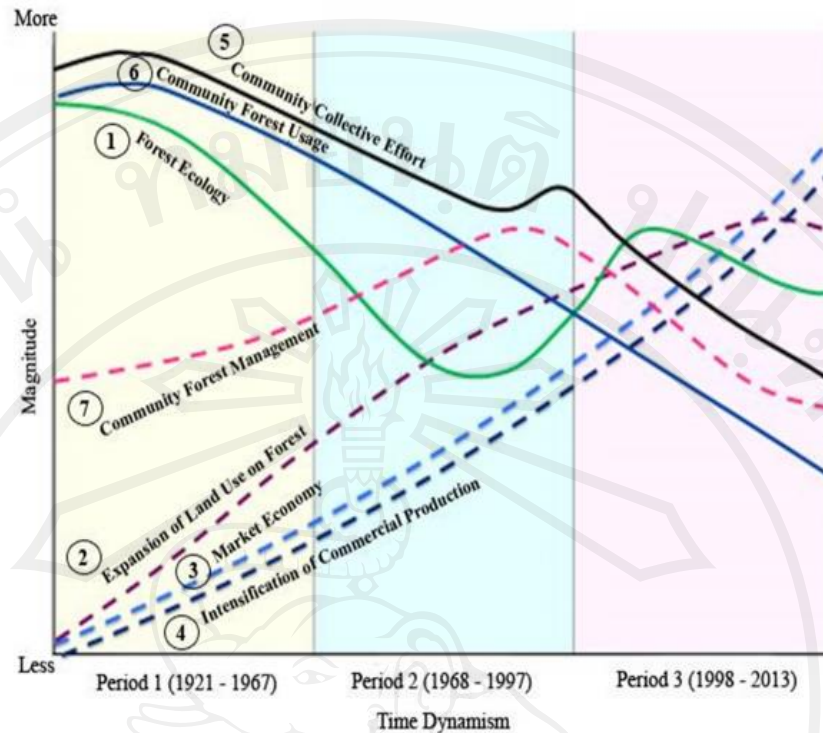


Figure 5.4 The dynamics of the changes and the changing magnitude of the seven factors which affected each other

From Figure 5.4 it can be summarized that the dynamics of the 7 factors which affect the community forest usage and management are listed as the following.

1) Characteristic of the Forest Ecology during the beginning was abundance. Later in the mid 1st period and the mid 2nd period, the forest began to deteriorate and continuously decreased in size. Water production also decreased. At the beginning of the 3rd period, the forests began to be restored and in the middle of the 3rd period, biodiversity had declined. It can be seen that the line 3 shows the highest magnitude of the characteristic of forest ecology in the 1st period and decreased significantly in the mid 2nd period. However, in the mid 3rd period, the magnitude of the line had a small increase at the end of the 2nd period and began to decrease in the 3rd period.

2) Expansion of Land Use on Forests during the 1st period could be occupied independently due to the small numbers of the population. The plains areas were used for settlement and irrigated rice fields. In the sloping areas they grew upland rice for subsistence. In the 2nd period, lands in the forest areas were utilized to grow cash

crops and these areas had the highest expansion rate. However, in the 3rd period they could not extend the land continuously due to space limitations. The line 5 shows that the forests land use was high in the 1st period and continued to increase to the highest in the 2nd period and then decreased in the 3rd period.

3) Market Economy during the 1st period was for a subsistence living. There were no markets. Later in the 2nd and 3rd periods, it started to enter into a full system of capitalism and markets along with a new consumerism. Financial institutions provided loans which as a result created an increase of debt. The line 6 shows that the magnitude of the market economic system was higher at the end of the 1st period and spiked continuously in the 2nd and 3rd periods.

4) Intensification of commercial production at the beginning was for subsistence and semi-subsistence which then entered into the commercial production system fully. The line 7 shows the magnitude of intensification of commercial production increased greatly and continuously in the 2nd and 3rd periods.

5) Community Collective Effort is the key to management, self-care and governance, a way of living, a strong relationship between the generations, and a high sense of community. Latter in the 2nd period the community was lawless and weak. At the end of the 2nd period the sense of community was stimulated to act in self-management. The 3rd period was changed to be more accepting toward individualism and rarely had time to participate in the community affairs because they had to accelerate production for living and maintaining the household economy as the most important priority. The magnitude of the collective power went down the lowest point by the end of the 1st period. However, at the end of the 2nd period the magnitude was higher than that of the mid of the 3rd period. The magnitude had shown that it was reduced continuously.

6) Community Forest Usage at the beginning was used independently and for many purposes without any controls because the populations were small in number, forests were abundant, there was other local wisdom being used, and household consumption and utilization was last. Later in the 2nd period, those patterns began to change and forest usage intensified. Even though, forests were recovered in the 3rd period, people did not have time to find non- timber forest products. Usage of the forest was reduced for the need of “water” only for agriculture. The line 1 shows that

the magnitude of community forest usage had decreased continually and remained very low in the 3rd period.

7) Community Forest Management in the past, according to the traditional ways, had beliefs of the supernatural. Traditions or rules of the community helped to establish norms in the resource usage to be the framework of adequacy. The interesting thing is that in the 2nd period of the phenomenon, forest degradation was in a crisis due to the inadequacy of water. It raised an awareness of the limitations of the forest to the community. At the end of the 2nd period, there were changes and adaptations by creating a new condition on the principle of participation in the empowerment forest management which was found to be the most effective. Nevertheless, in the 3rd period, the community forest management began to lower the overall intensiveness and mainly focus on just water management. The line shows the magnitude of the community forest management was high at the end of the 2nd period and tended to decrease in the 3rd period.

The conclusion of the dynamics and the correlated relationship of complex factors show that the change of community forest usage and community forest management is the result of the first five factors, which are interrelated. It makes community forest usage and management dynamic in each period of time and slides along the contexts and conditions. This can explain that the change of community forest usage and community forest management are complex and cannot be reduced to see only the power of state. Therefore, stagnation of community forest management does not reflect the previous explanation from the political ecology. This states that, the use of wisdom and the modification of the relationship with state power could give the community forest usage and management the potential to manage resources sustainably and be truly justified.

From figure 5.4 , it was obvious that 5 factors had connection with each other although it is unexplainable in terms of cause relation but for co-existing or change of both increased and decreased terms of 5 factors which affected community forest utilization and management that simultaneously occurred, we could see regression and stagnation of community forest management that did not reflect explanation of political ecology proposed as an alternative to solve the problem by strengthening community power to manage resources including change power structure in terms of

economy and politics by both policy of government and law system so as to build up public resource management process which would result in sustainable resource utilization.

5.3 Theoretical Criticism and Suggestion: in topic 5.3, it is theoretical criticism and the researcher applied basic data in chapter 3, 4 and 5 to support analysis of minor parts consisting of 1. Epistemology to gain fact and truth; it comprised of logic or reasonability and methodology to gain knowledge 2) consideration about concept and theory that explained complexity and dynamism of community forest and compared to political ecology and 3) suggestion for study and policy suggestion as follows,

5.3.1 Epistemology in ontology of community forest: this study was full of attempt to understand phenomena which were similar to actual situation in area and differentiation from the study using epistemology, this is to say

For this study, the researcher selected Nam Kian Community in Phupiang, Nan as case study due to the fact that this community had specific terms in context of area in some periods in which community forest management was strong and it had slight problems compared to other places. This work needed explanation of why community forest management in context of slightest problem turned to stagnation.

The study found out that the community forest management: a case study of Nam Kian sub-district, Phupiang district, Nan province has been developing complicatedly under five factors, including forest ecology, expansion of land use on the forest, market economy, intensification of commercial production, community collective efforts, and community forest usage and management. These factors are interrelated, which means that a change of one factor will inevitably affect at least one other factor.

Stagnation of community forest management of Nam Kian sub-district showed that the significant impact toward the community forest usage and community forest management has weakened. The influence of intensification of commercial production together with a new consumerism under a higher demand of consumption has had an influence on the way of life of the community. The transformation of complex factors related to the movement has not stopped, but it has developed

dynamically according to the time periods. The value and meaning of the forest in a period of time and in a certain context have different variants. In this study, there is a crucial finding in explaining these new paradigms. The community forest management of Nam Kian sub-district has occurred with non-linear characteristics (Kaewthep, K. et al., 2006). It was not intensive in the first period and then it peaked in the second period. Later in the third period the forest management had weakened and created stagnation.

The stagnation of the community forest management in this study had not been caused by a primary determinant of state power or the weakened community rights but it is a combination of complex factors, especially in the market economy and intensification of commercial production in land use, labor, and inputs. They all affect the ecology and the degradation of biodiversity which affect forest usage. The community collective effort is degraded, leading to the degradation of forest management. This is the phenomenon that explains the causes of stagnation in this study, in contrast to the description of the political ecology which underestimated the market economy and intensification of commercial production and overestimated the community effort.

5.3.11 Logic

According to phenomena of such community forest, if we require an explanation with close reality, we need to change paradigm. Theoretical study and methodology made us know that epistemology which was a dispute in term of truth and fact derivation about community forest management, when the researcher studied ontology, was that the problem of community forest management which had complexity and dynamism to apply logic from only or mixed disciplinary as in the case of economics, politics, eco-economics and wetland ecology that had skillful and deep concept so as to understand phenomena with complexity and dynamism. This may cause knowledge distorted while dimension of forest management was not separated from soil, water and forest resources and activities of people in an ecosystem.

A previous explanation of phenomena of “community forest” used empiricism and determinism by deducting not much or less phenomena so that it became minor

parts for understanding such as Political Economics, Eco-economics and Political Ecology with different focused point. Using logic from mono disciplinary and technical term to create understanding of phenomena with high complexity may result in incorrect information as community forest management had complexity connected with natural resource base and ecosystem, land utilization, production system , community economic system and community with high dynamism and all had impact on community forest utilization and management.

To understand community forest management which had high complexity and dynamism, we needed new paradigm that was to understand in holistic term by applying knowledge from multi-subjects to show that community forest utilization and management from the past to the present had changes caused by first 5 complex factors which were ecological condition of land utilization, production, economy and community. All had impact on community forest utilization and management.

To prove if community forest management was incorrect, if epistemology and methodology were used that could make it unfree from understanding complex phenomena although this work did not propose new epistemology. At least, it's an effort to understand real condition of phenomena with sensitizing stories that were phenomena of community forest to create understanding. So, we could not consider in terms of both single and separate way because problems of community forest management had many linked factors mentioned above.

To create concept framework, the researcher has considered phenomena of problems to manage community forest (problem- orientation) and studies data and experiences of local people who have been with problems for long time. The gained data could show related phenomena between activity and existing process of the community that had im pact on ecosystem in wetland area of case study and at least, discovered knowledge was similar to reality and it was knowledge that explain particular area in particular culture and time that was flexible and had dynamism changed according to situation which could not be concluded to be generally used.

This study tried to understand complexity and dynamism of mentioned phenomena in methodological matter. Logic of dynamism can be seen from essential phenomena that affected community forest management. Each phenomenon had

reasonability with simultaneous co-existing in each period and when they were connected with periodic dimension, dynamism would be clearly obvious.

5.3.2 Methodological criticism for epistemology was because method of finding perceived truth and complex phenomena and dynamism were to understand situations of community in case study. At least, this study was not started from deep theoretical understanding and in contrary we could understand phenomena and have relevant theory revision including tools used to accumulate various data and tried to understand way of thinking with clear concept framework that showed complex factors about how they are related. For data accumulation, it was separated for first 5 factors which affect 2 later factors and then data would be proved for fact of each factor as shown in diagram in each period.

Tools used to accumulate data were various meanwhile, analysis was not limited but needed quantitative proof that emphasized on importance of statistical completion or required deep qualitative meaning. This study used many types of tools that could make local people learn how to use and accept the mutual truth which was deemed reliable for applied tools. For this method, contemporary specialist may call it “mix method or grounded theory)

Consideration that is as important as tools is how to analyze data although complexity of factors and dynamism of time can be seen. The result of analysis in 5.2 and 5.3 can make us know that although this study cannot precisely indicate like methodology of science and natural ecosystem but this analysis considers origin and change of factors according to interaction of each factor by separating as the time in each period.

5.3.3 Essential discovery from explanation according to new paradigm and methodology

This study has proved that what was found was that community forest management did not intense occur as linear line. In contrary, it was found that forest management process of the community was non- linear or that is to say; it started with not intense but later it became more intensified to the peak and it rose at the end of period 2 but in period 3 until present day, community forest management is weakened and it changes to curve line. Meanwhile, such curve simultaneously occurs with

relevant factors, capitalism economic system and markets leads production system become high and has reversal with community and decreasing forest utilization.

5.3.31 consideration about concept and theory that explain complexity and dynamism of community forest, the researcher has studied about concept of political ecology

Base of concept framework of political ecology is mixing political economy and ecology to explain problems of resources and environment deterioration and give importance to interaction between power of society and politics and environmental change (Nuemann, 1992) or in the other words, it is to find the social cause of interaction between man and nature that causes environment deterioration (Blaikir, 1985) by focusing on authoritative relation of groups in society. Therefore, concept framework of political ecology must include actors or stakeholders in an analysis as well.

For applying political ecology in Thailand, there are many specialists such as Chaladchai Ramitanon et al (1993), Anan Kanjanapan (2000), Yod Santasombat (2000) having vision and believe that essential factors that decrease potential of community forest ideology are that traditional rights of villagers are not legally accepted. power enhancing to control resource management under government's supervision is cause of problem which government cannot make it practical but it brings about contradiction between government and community and it is involved in depreciating right for forest management of the community. Therefore, solution is proposed by returning rights to community with confidence in community power and potential to manage community forest management by using social capital, cultural capital and intellect.

Primarily. Concept of political ecology emphazies on studying contradictory relation about power and right to access resource including find the way to change terms that can make resource management fair and sustainable, Anan Kanjanapan (2000)

Later, there was a focus to study relation about social movement process of those who are affected by structure economy and politics to define the nmeaning aalong with negotiation through social operation and movement campaign like movement process of Community Forest Act which is the consequence of

determining forest area control management policy that is negligent to variety, complexity and movement for changing area control system of government under the supervision of government of both preserved forest expansion announcement, land application determination and right document issue (Anan, 1996a)

To explain problem condition and the way to solve problems, this theory tried to present alternatives for solution by offering to strengthen community power and change government policy and law system and respect power and right of social and cultural difference which variously exists in society. Besides, the society should have participation to develop new regulations to give a chance to tribes in society to join with resource management including mechanism development for monitoring and balancing any authoritative groups in society that may bring about sustainable resource utilization with true justice, (Anan Kanjanapan, 2000:24) However, when considering this work and concept of political ecology, similarity and difference are found. That is to say;

The explanation of political ecology's concept (Chaladchai Ramitanon, Anan Kanjanapan and Santita Kanjanapan, 1993: 175-178) and Sanae Jamarik and Tod Santasombat (editor) referred to quality of community with community forest management and found that mutual quality of communities that preserve forest strongly is high community with ideology or community culture that reflected in form of belief. Rituals the community hold are mutual belief with supportive relationship for mutual sake. There are applicable natural resources with community and organization leader including strict rules. They had intellect and custom to manage resources which are mutual properties of the community.

Such explanation has similar quality to the result of this study in the 1st period which we could see balanced relation between natural resources and ecosystem. The reason why forest was fertile and had fundamental factors community could plentifully utilized is because of small amount of population while most production system in community was for living and had high quality of community no matter the relationship between nature leader and members, generosity through kinship and collective effort in terms of production and public activity including usage of cultural and intellectual fund that could bring about balanced forest management by the community.

In the 2nd and 3rd period, concept of political ecology found that problems of enhancing government power may possibly deprive the right of community and have impact on community forest management. In such way, it is to prioritize social movement campaign of those who were affected by structure of economy and politics through operation of social movement campaign and negotiate and find the way out by returning rights to community to manage resources with confidence in community power and potential by using social fund, cultural fund and intellect to manage community forest. Political ecology can explain the way for community forest management by using cultural and intellectual fund with empowerment that have been passed to the 2nd and 3rd period which may not clearly show dynamism.

But what was found in Nam Kian Community was that community forest management had intensified development and highest potential in period 2 especially when the community faced crisis problems of water shortage for consumption and utilization. From such situation, people started adapting themselves under new condition with participation of serious community forest management. Furthermore, what was different in this work found that the major impact affecting community forest utilization and management was influences of economic system and intensified production system which had effect on relation of 5 complex factors with connected change from a factor to the others. This could make use see villagers putting their full effort in both agriculture and non-agriculture production to earn money.

Major change in the 3rd period of present day could make us see the community being pressured by full capitalism economic system and market that came along new value under higher consumption. It harshly affected and influenced way of life and living of community. The fact that community became capitalism economic system and market caused ecosystem, production system, economic system, land utilization and community have change and they affected community forest utilization and management that could bring about stagnation of community forest management.

This study proved and visualized changing of relevant complex factors that moved to transformation and they affected community forest utilization and management and we could see attempt and struggle of villagers who gave precedence to terms of economy. From phenomena, it is obvious that forest management process

of villagers is moving itself out of the issue that used to be limited only for community culture and intellect and becoming the issue with more complexity. This can change relation in community of way of thought, belief including social differentiation without unity to manage community forest with efficiency.

Although theory of political ecology has quite high expectation with such method but in reality, it is quite contrary because power of capitalism expands along with power of consumerism and power of bureaucracy and they cause the community have high rate of differentiation and it must be linked with relation of production that needs capital, market and importantly, original social condition is challenged by new concept.

Furthermore, it was found that new generation people have choice to do more various career. Living life with chaos and earning is full of haste that needs to compete with time and most people do not feel that they directly rely on forest and it may not be primary necessity but additional one in which the community can rely on or relieve in basic level of living.

When it comes like that, unity of community in the past was balanced connection between productivity, resource utilization and way of life without interference of outside power can exist or not, the answer may not realize such hope.

From phenomena of stagnation of community forest management, this study found that condition of stagnation to the management of community forest in Nam Kian Sub-district was not caused by factor of government power or community strength or even using complex right. It depends on not only intellect and community power like theory of political ecology but power and influence of economic system that determines and mainly affects production pattern, ecosystem and forest utilization.

With expectation of political ecology with confidence of collective effort including intellect and complex right, balance of forest management is seen and with expectation that I supposed to be over estimation but actually it is under estimation, influence and power of economic system and production are quite contrary. When community is influenced by capitalism economic system and market, with power of

capital, new consumerism may cause social differentiation and it can reduce collective effort for community forest management.

5.3.3 Suggestion on Study and Policy

5.3.3.1 Suggestion in study

This work has assumptions that need to be proved about community's potential to manage forest under the pressure of capitalism economic system and market to show if community could be able to manage forest with efficiency. If this kind of study is experimented in community with similar context, it is community managing community forest with strength, if the result is likewise, concept of epistemology should probably be similar to situation and complex theory as the result of this study will be more acceptable.

5.3.3.2 Policy-level Suggestion

Those who are related to resource management in policy level should have new thoughts. If they still think of separation in institutes with skills of assigned tasks that everyone thinks and does with available power, it may not lead to sustainable forest management. If changing the way of thought that we should mutually consider how to balance production system and ecosystem and they come along because the key is that production system needs water from forest ecology, if we can manage production system and forest for balanced amount of water, it can bring about sustainable forest management.