

CHAPTER 2

LITERATURE REVIEW

In the study of farmers' participation in sustainable agricultural development in the highland area of the Royal Project in Chiang Mai province and I employed theories, prior researches and documents to conduct the research as follows:

1. The concept of sustainable Development

1.1 Top-Down development

Top - down development is usually applied by the Government and some organizations in set up the model to do any program under their supervision for the reasons of convenience and modernization but in the same time, many Top - down development model could not suit individuals' need and socio - environment necessary so it caused of negative participation from the receiver side (Srimongkol, 1999).

Under Top - down development as can be seen in many rural development projects from the past up to the present by the central Government as the top developer to the local Government setting in Provincial, District, Sub district, and Village as the down developer. From the overall picture, it can be found like success and fast but at the same time, the receiver have not shown their attention and participation due to some development give them negative impact. Therefore, nowadays development model should be adjusted and developed its idea to be more diverse and flexible to get more participation from the people

1.2 Sustainable development

The definition of sustainable development is the most referenced internationally. In World Commission on Environment and Development or Brundtland (1983) reported in "Our common future" that "Sustainable development is development that meets the needs of the present without compromising the ability of future generation to meet their own needs." which are able to interpret that the

benefits from any resources for the new generation should not be employed uselessly, yet, it should be conservatively. It is important to develop resources to be efficient for the new generation.

In Thailand there are scholars have tried to give the more clearly definition of sustainable development. In 1998, Payutto (1998) stated that “Sustainable development is integrated and comes to holistic.” which can be interpreted that related compositions would be included in balance. On the other hand, it can be said that sustainable development is making human activities to be with natural rules, which means that it is necessary to pay closely attention to human factor on development planning by adding cultural value in to economic and social activities together with solving the environment problem. Therefore, it can be concluded that “Sustainable development cover all parts and dimensions of which economic, social, natural resources and environment, mental, culture, etc. with human resource plays as the center of target of the development for the happiness of new generation.”

On the occasion that Thailand needed to present the proposal of the world summit on the topic of sustainable development which was held at Johannesburg, South Africa in September, 2002. The Committee of the Summit Organization and The Thailand Environment Institution had brainstormed with members. Finally, the definition of sustainable development was delivered as “In the context of Thailand, sustainable development is the development that is holistic and balance, based on natural resource, local wisdom, and Thai culture with the participation of Thai citizen generously and respectfully to generate self assistant and equal quality of life.”

In Thailand, it is important to consider the “Sufficient Economy” as the philosophy of balanced development between economic, social, natural resource and environment dimensions to generate the economic growth and living happily of Thai citizen.

1. Ecological Dimension: Sustainable development pays the highest attention to natural resource value. The employment of natural resources is at the level of to be able to recover the used resource closely to the previous circumstances. The solutions of the employment are to enhance the efficiency of natural resources employment, to slow down the employment, and to restore and compensate the used resources properly.

2. Economic Dimension: Sustainable development stems from the sufficient of economic growth continuously. The sustainable development meets the needs of people and is able to expel poverty based on the natural resources conservation. Moreover, the employment of clean technology and good to environment without pollution making is necessary to the development.

3. Social Dimension: Sustainable development is to be able to support the standard of consuming products for people. People in each group are able to generate the better relation to each other to distribute product fairly.

To form the sustainable development, people should do as follows:

1. Solve the problem of poverty urgently.
2. Change the way of production and consuming.
3. Use the cleanest energy for industry.
4. Think carefully about the proper technology which will be brought to the country. It should be approved that good to the environment.

Praputnitisarn (2001) analyzed the systematic sustainable development that sustainable development was the relationship between two systems which were

1. Natural system or ecosystem was complicated and difficult for human being to figure out the whole system. Ecosystem was consisted of:

1.1 Physical System such as atmosphere, temperature, soil, mineral, water, and natural phenomena.

1.2 Biological System consisted of living creature such as plants, single cell animal, and plant and animal with complex structure and social system including human beings.

2. Human social system or Human Ecology was the complex system both ideally, structurally, and socially. It can be included to human behavior that the present academic wisdom is not able to comprehend the human ecology perfectly. It widely known that human ecology was the relation of ^{๓๐๐} systems such as

2.1 production systems were to produce in agriculture and industry which run the service business for the outcome. Moreover, the system including the production factors, consuming, and fair benefit distribution received from the production system.

2.2 Political system with the model and decision making of country, social, and community management to control the behavior of people. Also, resource management and planning of development were included in political system.

2.3 Settlement was the usage of physical, geographical, and social area.

2.4 Social and cultural system was the human organization management in the form of organization and institution to make human being in the same area peacefully. Also it was about making and employing knowledge, idea, beliefs of behaviors and relationship between individuals, individual and group/ organization/ institution, and the same group/ organization/ institution.

3. Relationships between natural ecology and Human Ecology combined with

3.1 Dependence was the relationship that occurred in the past. Human was one species of Biological system. Human took benefits from soil, water, air, animals, and plants together with help control the ecosystem to be completed.

3.2 The relationship of natural ecology destroyed human ecology which could be seen in natural phenomenon, such as disaster which mostly happened from human beings.

3.3 The relationship of human ecology destroyed natural ecology and effected to human ecology, such as human destroyed forest on the highland to do agriculture. Consequently, plants, animals, soil, and water were not good enough for human.

3.4 The relationship of human tried to make natural ecology balance

As mentioned above, the composition and relationships of human ecology and natural ecology in horizon dimension. Realistically, the relationships are the in vertical dimension also. Accordingly, the nature of systems consisted of the micro system, sub system, and macro system. Each system contains the fact of system and sustainable system which are

1. The systems would be changed as dynamism.
2. The existing of system in some duration is about the balancing and deterioration of the system. Therefore, equilibrium of the system would be the

significant point. It can be said that there is no the perfect equilibrium in the system, yet the equilibrium is only destroyed by human being.

3. The system that exists for long time and is able to resist the effects of outer changing or other related system would be bigger (but not be immortal). It depends on the ability of adaptation. The adaptation of the system can be divided as follows:

3.1 Perception or sensitivity of the changed from

- The faults of the system.
- The effects from the related system.
- The feedback from the system with others system, such as soil is destroyed by chemical employment. Farmers need to pay higher cost from chemical employment and the problem caused the production problem.
- The actual change outside the system and the system is the only one activator.

3.2 The adjustment and change and decision making of using mechanism in the system are generally available to serve the change that the system had perceived.

3.3 From the perception of 3.1, the continued system was that the more perception brings the better development. The next operation and perception would increase the ability of perception and comes to a better decision making of mechanical employment.

3.4 The ability of system adjustment is (generally) not equal. However, the point of the concept of sustainable development is human being. Therefore, it can be said that this is a good chance to produce a better adjustment (If it is not too strong and out of control) while the natural ecology is less adjustment, especially the weak creatures of biological system. Thus, the actual beginning of sustainable development is the adjustment of human ecology to solve the inside problem and to discontinue and prevent the natural ecology destruction (in the case of nature is the input to wait for co-existence or interdependence).

The causes of the balance losing of the system and brings to the unsustainable might be started form the question as at present, we confront various crises on both

human ecology and natural ecology. The crises occurred in the two system were casual relation. Mostly, the crises would happen at the human ecology first. Therefore the cause of the balance losing which brings the unsustainable might comes from

1. The lack of the adequate knowledge to understand the natural ecology system in the step of to be able to make the dependent management between physical system and biological system in horizon type. Lacking of the knowledge might stem from the education in the last decade which was the divided and gone to the depth. This kind of education makes the holistic knowledge unworthy.

2. The lacking of the knowledge of the root of the cause brings the social crises. If we understand the existed phenomenon, such as about production, decision making, settlement, resources employment, the crises would not be happened. The economic crisis, debt, poverty, drug, crimes are the balance losing in the system. Human are not living and interact with natural as actual coexistence or dependence.

3. Problems are still existed in social management of human ecology and nature

- 3.1 The separated management as the problem existed in the closed vacuum. Thus, it is difficult to solve the problem.

- 3.2 Misunderstanding about the technology. It is known that technology is the key of success, maybe to win the nature.

- 3.3 Momentum of capitalism had increased the power and spread over the world together with the collapsing of other systems.

Therefore, the concept of sustainable development is considered to keep balance. The definition of “sustainable development” is given in many dimensions, sustainable development is the development that meets the need of present generation freely. In addition, it should be open for the new generation to respond their needs. Moreover, the WCED has compiled the definition of sustainable development presented by scholars which is social and cultural sustainability. It can be said that social and cultural sustainability is the social system development that makes human activities proceed continuously with cultural diversity under the limitation of natural resource and environment to makes balance and equality in social. Additionally, environmental sustainability is a development which realizes about the bio diversity.

The development is about the management of the environmental adjustment in long period in order to effect to the political sustainability. The political sustainability is a development of decision making of resource employment efficiently without the destruction of environment and emphasize on the right and freedom of people in participation together with mechanical and political institution development to create the sustainable resource utilization, such as the reduction of resource utilization, especially, the wasted resource. The reusable resource should be managed effectively for long period. Also, it should be well manage in production with high technology.

Sustainable agriculture is a model and production which meets the most important things, such as adequate of food, agricultural production preservation, and keep balancing of natural resource which are necessary for agricultural production. These models are considered as the solution of agriculture system, integrated agricultural system, organic agricultural system, and natural agricultural system.

Prapunitisarn (2001) presented the new concept of sustainable development using system relationship, the causes of unsustainable development, and the concept of sustainable development which is the hypotheses the his research that

1. Sustainable development is the solution of balance losing of human ecology related to balance losing of natural ecology. Both systems are the turn back circle to each other. It seems to start the balance adjustment from human ecology first.

2. To solve the balance losing problem should start with holistic knowledge of the subsystems and relationship between each system.

3. Sustainability / non-equilibrium are dynamic. The core point is the ability of adjustment which depends on the efficiency of change perception, mechanical support, and system operation to meet changes.

4. The human ecology need to be developed first because it is the complex system and widely disseminate.

5. To generate the sustainable development, nowadays, the separated administration, the systematic reorganization, especially, the change of “developing format” are only happen in idealistic. Thus, the sustainable development is a sustainability which is limited. The actual sustainability is not happen in the human ecology.

The implementation toward sustainable development following by Office of the National Economic and Social Development Board (2000):

1. Start with person by caring physical and psychological healthy and fresh, compliance with democratic principles and based on the principle of equity and justice in the workplace, family and their organization.
2. Increasing the population's power by awareness in prestige and indigenous knowledge.
3. Supporting the people's organization by opportunity for public participation in creative development with mind power and beauty of the soul.
4. Must be followed in the democratic primary family communities and agencies.
5. Try to self-reliance in all areas of knowledge and news to others and relying on external factors less to their governance at all levels.

Ritnetikul (1993) stated that sustainable development and participation have to focus awareness on the tribe turned into a new dimension of development. That is a people-centered development, create harmony in the community focusing on participatory, and then develop and liberation from slavery to modern economy by using folk wisdom or tradition to the tradition self-reliance to which sustainable development to lead to the ultimate gold: quality of life and environment. Thonlor(cited in Ritnetikul,1997) about the third world that people would participate more changes, pressures for decentralization to be very deep that were based on the information below to see the more human-centered view of human development and natural resource and environmental was critical view.

Therefore, the concepts of sustainable development are the beginning of the action. The success of sustainable development depends on the ability of social adjustment to generate the better living about dependence relationship between human being and human and sub-natural ecology. The significant point of operation level is to disseminate the social network at community level to other community network horizontally. On the contrast, the dissemination from social level to regional and national level should be vertically related in order to enhance the idea/format of "development" to make human ecology balance and reduction of natural ecology destruction.

According to the study theories related to sustainable development found that sustainable community development will be developed by developing factors influencing the potential use of community. Whether it is policy development, promoting the participation of the community to solve problems, knowing how to use technology and knowledge that people already have strong development areas. As well as the capacity of community groups or organizations will help the community can rely on their own without waiting for help and motivation from the outside only.

2. The concept of Sustainable Agricultural Development on Highland Area

2.1 Agricultural Development on Highland Area

Angasith (1988) stated that the composition of Agricultural Development on Highland Area consisted of

2.1.1 Natural Resource Development: because most of the highland area is forest, it is necessary to develop as forest conservation, plants, soil, and water. The important problem is forest destruction by the hill tribes. Thus, what to operate as the solution are

2.1.1.1 Forestry It is significant to take care of the forest by maintaining the existing system, additional planting, and manage that forestry system properly. Moreover, the forestry agriculture is also support farmers to do agriculture on highland with forest management system without destruction.

2.1.1.2 Watershed Highland is the beginning of water of the north and the central part of Thailand. The watershed development is really important, and lack of water for agriculture, forest development might be continuously affected from forest development by preventing forest destruction together with the promotion of the conservative agriculture in the highland area.

2.1.2 Physical Development

Physical development is important for agriculture development according to the promotion of well agricultural development. It is necessary to consider

2.1.2.1 Road and bridge Because of the location is on highland area and distance is quite long, transportation is inconvenient. Most of local people travel by foot and animals as vehicle, such as donkey and mule. As mentioned before, the agricultural development on physical development plays significant role in

agricultural development on highland area because of the convenient of logistic and is able to bring technology, agricultural equipments and tools into the village.

2.1.2.2 Agricultural on highland support Agricultural support in a process which make farmers to be efficient producers. They are able to do well conservative agriculture. Also, agricultural support is known as the source of production and marketing. Moreover, it is able to solve the problem of economic to farmers.

2.1.3 Highland technology development

Many highland projects supported the production technology researches, especially the project of hill tribe development. The projects support the national and international organizations to conduct researches of plants and animals in order to discover the proper genes for highland area in the northern part of Thailand. As the result, the genes would be adjusted to the environment of highland. The local people would be able to earn the livings and consume from the researched plant and animal.

2.1.4 Highland man power development

Highland man power development plays important role in supporting other development. If the development has been well prepared with the man power, it tent to be succeeded. However, the formal education on highland is quite limited because of the diversity of local hill tribes and location. However, it can be said that the education management of highland has improved in some way.

Composition of living enhancement of highland community:

1. the sustainable agricultural development system
2. increasing agricultural product for consuming and marketing
3. improve general social atmosphere
4. enhance the ability of the officials
5. support other government organizations to participate in the development

2.2 Sustainable Agricultural Development Concept

The economic and social development of Thailand in the past 30 years emphasized on economic agricultural development. Therefore, the carefulness of environment and social effects are forgotten. As the result, natural resource utilization was wasted and not produced the high profit to community. The natural destruction is

rapidly happened pollution become the main problem of the community. Disaster and insect become the major problems for farmers as well. Production damage of agriculture is tending to be higher. As the result, the higher cost of production would effect to economic and social status of farmers. Finally, it would be affected to the nation. Suwan (1996) stated that the effect of the environment change which is not the natural changes, such as forest and animal destruction for expanding agricultural area, is the destruction of the most important factors of ecology. The destruction of energy network, high technology utilization causes pollution of soil, water, or even air. Moreover, other creation on the same ecology system is also destroyed (Weerapattaniran, 1993). And presented the result of sustainable agricultural management towards economic, social, and environment as:

1. The sustainability of economic which is the higher total income to area is encouragement for farmers to accept sustainable agricultural technology. The technology is able to improve farmers' abilities both of the production and living. The saved and efficient natural resources utilization reduced the instability of production and income by changing from single planting to integrate farming. Additionally, farmers are able to reduce the expense, such as food, herbicide, medical fee from toxin, etc. it is important to separate some of the product for family consumption.

2. The social sustainability Farmers are able to live self-dependently which lead to the better lives. It is not necessary to immigrate to big cities and stay with the families. They have opportunities to improve knowledge. Moreover, they have enough food to consume, opportunities to participate in region or social development which leads to mother land loyalty.

3. The environment sustainability Sustainable agriculture makes balance of ecology system and supports the genetic diversity of plants and animals. In agricultural system, farmers reduce herbicide utilization by generate self-control system. Additionally, it can be conserve the natural resource, such as forestry, soil, water, or wild animals. Also, it can be reduce soil, water, and air pollution.

Therefore, sustainable agriculture plays significant role of nation development. Not only this is the solutions to solve farmers' problems, but it conserves natural resources for social. It can be said that this could reduce the city problem indirectly. The result of agricultural development is concluded as follows:

1. The forestry area is decreased rapidly because of forest destruction to expand farming area, and vast and wasted utilization of forest resource.
2. Birds, wild animals, plants, and living creature are destroyed. It causes of the bio diversity reduction of the ecosystem.
3. The low quality of soil stems from agricultural management with on proper maintenance. The surface is flooded. Thus, soil is not qualified for agriculture.
4. Rivers or water resources are shallow.
5. Temperature is not stable and it tend to be stronger, especially when the quantity if rain is too low.
6. Pollution for every creature including human being. Consequently, it continuously affect to economic, social, psychology, and imbalance.

The keys to sustainable agriculture can be identified as follow: (Senanarong, 1993)

1. Planting system and ecology systemic necessary to be imitated from nature. Many diversities of plant existed in nature. Organic matter circle is balance and control each other, no strong pest expansion, enough sunlight and moistness and keep stability as long as possible.
2. Keeping balance or add the plentiful of soil by restoring and conserve what is existed before making it to be developed.
3. Pest prevention and destruction, generally, there are enrich and balance of creatures in natural forest because the creatures control population of one another. Thus, it is important to reserve and add the balance of creatures.
4. Using plant against pest by collecting plant that is well-adjusted to nature. It is the best choice of sustainable agriculture. Other choices are using natural creature to chase pest, such as birds and other integrated techniques.
5. Promotion of sustainable development can be made in various ways, such as natural and environment conservation, Green House Effect prevention, burning reduction, keep the forest and planting more.

From the concept of agricultural development of highland area and sustainable agriculture, the concept and practice of sustainable agricultural development on highland area is presented. Also ways that leads to unsustainable and sustainable

agricultural development are revealed to meet the concept of the research which focuses on sustainable agricultural development on highland area that is the reason why the researcher reviewed the concept to this research.

3. Concept and Theory of Participation

3.1 Concept of People Participation

3.1.1 The Definition of Participation

Concept of People Participation, generally, explained as people development in employing and controlling natural resources and production factors in community in order to create the benefit of economic and social. Therefore, participation should be the participation in democracy which leads people to enhance their perception wisdom and decision making. Therefore, people participation is both a strategy and objective. The definition of participation that participation means cooperating in something, including responsibility (International Labour Office, 1971). However, the definition of participation in society is participation of voluntarily in anyway the relationship between individual and group or group and group that may be any formal or informal. Participation related with mental and emotional involvement of a person in group situation, which concerned the effect of such cause appeals to be made to achieve the objectives of the group that makes it feel both share the responsibility with the people and groups involved in the decision making process. Implementation and benefits of development also participated to develop public awareness of his situation to a change in the definition and implementation of the people themselves (Hay, 1985).

At present people participation concept is acceptable and is employed as the developing framework. The process of participation is not depend on government initiation and planning, but the success of participation depends on people in community intend to independently operate the same activity, especially in team working. Team power is the main factor of success. Moreover, it is necessary to work in team form many associations, such as government, private organizations, academic sections, and people, to brainstorm in order to solve local problems.

Walaisatian (2002) concluded in participation procedure that there were two type of participation which were

1. Participation in development: people participate from the beginning until the project complete, such as brainstorming. Planning, decision making, resource management, evaluation, and manage the benefit received from the project. The project should be matched with culture of each community.

2. Political Participation: can be divided into 2 parts as follows:

- 2.1 Promotion of people right and power and enhancing the ability to improve self-management in order to preserve the benefit of community. Control and distribute the community resource to create the procedure and structure of activities for local people to improve their ability, also to gain more benefit from the development.

- 2.2 Development procedure changing from government to community as the center. It is necessary to decentralize from government to the regions. The communities are able to negotiate about resources distribution and management with the same standard with each other. It can be said that the political participate is a kind of empowerment to people for future specification. Moreover, the equality of gender is the factor to be considered in the participation as well.

The concept of participation is the concept that people in community are able to participate in decision making in the future project development both of which government and private section. This concept is considered as the solution of country development, environment protection and preservation effectively. Many researchers proposed various concept of participation. People participation is the right of democracy because citizen has the right to receive, support, and oppose the information of any development projects or activities. Most of all, local people are familiar with local circumstances in dept much more than the host of the projects. Therefore, people participation, especially of which local people, would make the project more effective (Sriburee, 1995). The community participation that there should be the factors influences to the community. The factors are able to control the whole complex composition and factors not only just one side. It is necessary to consider the dimension of participation together with the context of environment, such as geography, natural resources, economic, social, political situation, and history

(Cohen and Uphoff, 1980). and concluded the compositions and factors of participation as follows:

3.1.2 Dimensions of Participation

1. Types of Participation

1.1 Participation in decision making at the beginning and during the project.

1.2 Participation in resource support and coordination.

1.3 Participation in receiving benefits as social benefit and individual benefit.

2. Participators

2.1 Local people

2.2 Community leaders

2.3 Government officials

2.4 Sponsors

The participators must have the compositions: citizen characteristics, economic, social, individual level, settlement duration, and land ownership.

3. How to participate

3.1 Participation with pleasure or wage or force.

3.2 Participation directly or by community agents.

3.3 Limitation of participation, such as frequency and duration.

3.4 Participation result, such as power creation and organization interaction.

3.1.3 Participation context

1. Characteristics of project or activities

Input: technology complexion and required resources.

Benefits: concrete, possible and effective duration.

Project design: flexible, reach and cover in management.

2. Participation environment

Prior factor: experience and perception in the past.

Physical and natural compositions: geography and bio-environment.

Social compositions: political, social, and culture.

The factors that have mentioned above influence the participation in the concept of Cohen and Uphoff. The concept is suitable for Thai society, especially about the project design. It is necessary to flexibly design each project in order to make the project suitable for local people to participate. Thai Environment Institution (2001) stated about people participation in environment management in Thailand and indicated as follows:

1. Information approach: organizations should provide up-to-date information service to public without expenses. In addition, there should be legal regulations for industry section to directly reveal the environmental information to public, such as PRTR System (Pollutant Release and Transfer Register). Moreover, it is significant to improve the law of environment. It should be clearly stated because at present “maybe” was still used in the section 6 and 8. Also, the channel for people to easily reach the information should be provided, beside the accusation. The right of information perception should be guaranteed by the constitution. Finally, government should support the alternative medium for people as well.

2. Decision making approach of principle, plan, concession project, project location, and environment effect. Government should support the act of people participation and let them to express their idea with participate these activities

- 2.1 Before decision making of the project.

- 2.2 Operation period

- 2.3 After operation

Thai Environment Institute believed that principles and plan making which were related to people need to offer them to participate in decision making process as well as provide the assessment channel to improve or to stop the project.

3. Neutral approach: people have the right to reach the environment righteousness equally. The decision making participation procedure should be the public principle of environment.

4. Enhancing people participation: The Office of Prime minister needs to support the Local Administration to be as the environment information center. The responsibilities of the center are to take care of the budget of local environment management, coordinate with others organization, and support the actual people participation. Moreover, government should make the assessment of the center

operation. Most of all the government official need to believe that people are able to make the right decision making for them.

The Thai Environment Institute concluded the right of people in actual participation which was to be able to reach the information and participate in decision making in all steps of projects. Although, the right of participation was added to the law, people were refused to get some information from some government organization.

3.1.4 Significant of participation

R. Chambers (sited in Kruekum, 2004) offered the concept of “Sustainable living in rural” in early 1990. Many field developers of the third world agreed with the concept and made the concept to be the significant concept in rural development concept. The conclusion of the “Sustainable living in rural” in Asia and Africa were showed as follows:

Rural development is a learning process. Experiences are the guide of project concept and management. Learning from prior failure or success is the heart of the concept. It can be said that expertise should learn form farmers. The desires of people come first. Generally, what people need to know is how to live stable and sustainable life. Most of all, never tell them what to do. They have the right to choose which way to reach the goal of life. It is not about to find objects, but it is about to find benefit in long term of land ownership. The principle to assist farmers is stimulating them to do what they think it is the best for themselves. It is necessary for the project staff to dedicate their life to the project and willing to develop people to people sincerely.

3.2 Principle of participation development

Principle of participation development as follow:

1. The beginning of development comes from people needs. If people are not familiar with the theme of the project, it would take long time for them to perceive and accept the benefit of the activities.
2. The activities should be organized as team working activities in order to enhance the relationship and foster the attitude of sacrifice.

3. In the activities, the ability of community is necessary to be considered. Community should be able to continue the activities after the project. People should realize that they are the owners of the activity.

4. The activities should be matched with local environment. It can be said that natural resources employment should be matched with culture and tradition.

5. The leaders of each community, such as religion leader or village leader or person who win the election, should participate in the beginning of the project in order to convince people to the project.

6. In operation level, people should start participation from the beginning, such as information collecting, study the cause of the problems, analyze and find the solutions of the problems, consult or participate in decision making about employing the limited resources effectively. In addition, operation with the brainstormed plan leads to the goal of the projects.

The concept of community participation in development is the concept that allow local to participate in problem solving. The concept is the kind of occasion for people to do self-analyzing and ready to change for better. Development process happens without forcing. The result of development will be permanently with the community. It can be said that the communication is the first step of sustainable settling democracy in community.

For the people participation in natural resources and environment management, (Tangsikbutr, 1995) has noted that:

1. The sustainable development community stems from people contract about ecology system utilization properly under the limitation in order to improve the quality of life and to solve problems accurately with the help of government, community development organization, and community organization.

2. It is necessary to promote the people participation in natural resources and environmental management to community by themselves.

3. Private organization plays significant role of running people participation.

4. Community needs to be acknowledged about natural resource management. It should be continuously promotion to public, research and study of community situation, and environmental quality control.

According to People participation concept shared by Tansigbutr (1995) the sustainable development community exists under the appropriate ecology system in order to improve the quality of lives and problem solving by government. The private development organization is the key of participation from public promotion, research and study community situation until environment quality control.

Alastair T. White (Cited in Bilnarong, 1992) has given the definition of participation that it consisted of 4 dimensions which are:

Dimension 1: Participation of decision making

Dimension 2: Participation of sacrifice of action follows the decision of development.

Dimension 3: Participation of sharing the benefit of operation.

Dimension 4: Participation of evaluation.

Jamrig (Cited in Tumkul, 1996) has given the definition of the actual people participation that people are free to develop their ability of resources and production factor management and utilization in order to living with dignity of social member. It also be the learning process and wisdom which is presented as decisions of their way of lives to self-dependent. Rapeepatra (1984) gave the definition of participation in community activities that it maybe is the way that people is the inventor and leader on everything. It is not to control from outside and command people to participate in activities. In contrast, people have to raise the activities themselves.

The participation of the belief that human is a creature that has intellectual awareness and is able to control the environment. Therefore, no matter how far it is, human should participate in the activities that affect his own life. In addition, participation also helps reduce breakage from the import of material from outside into the community. Participation does not mean only to support the project, but also include important steps, such as decision making about the project (Leesuwan, 1991). The participation of people must have procedures for public participation in political decision making of the State from national to local level which is able to accept legal rights in a public hearing process, information awareness, and must be decentralized management of resources (Atipoti, 1994). The participation is the process that people are collaborating to identify problems, needs, planning and decisions making in operating activities to solve problems they are encountering, and then collaborate to

achieve the success and to benefit the community. Also participating will also help create a sense of ownership and responsibility to people and bring projects which are planned to the goals (Tanuphon, 1986).

In conclusion from the collection defines the meaning of participation, meaning brings to various concepts of the this study is participation of people is public play significant role in launching a joint review together, accounted joint operational planning, and decision-making to implement activities in their own community, co-benefits, and co- evaluation for use in developing any other areas.

3.3 Scope of people participation

Participation of the people is considered that very important and very necessary for people participation. It is necessary to provide true and accurate information with the fixed step of how to participate properly and efficiently. The scope of participation is identified as followings:

1. Form of creating rules of environmental conservation as well as the use of natural resources in communities.
2. Form of networking. Because of most environmental problems can not be limited the zones or border. When a problem occurred, it often extended. Therefore, the form of people collaboration is very important, whether a form of consolidation or public representatives who are affected by environmental problems as corporate citizens or a form of private enterprise.
3. The special group establishment in order to study and monitor problems. Environmental issues which are expected that will happen from any activities or projects that may affect the community, local people may be group and set up a delegation to study and monitor the problem to seek cooperation in suppressing the problem and make the power of information for negotiation.
4. Held the public hearing if there is a conflict between state and people about the environment, policies, or projects that will impact on the environment to local people.

Srimongkol (2001) said that there are three ways of people participation development which are:

1. The top – down methods is a development started from the government or organization which responsible for development operational planning. The people who are developed are just a response to development only. A benefit of this method is that it is convenient for developers to plan with wider point of view. On the contrary, disadvantage is inconsistent with the conditions of community. Moreover, natural environment and social make the method unaccepted.

2. The bottom - top method is a development which is on the contrary to the top-down method. The farmers have to initiate a development plan. It is considered that in this method people know well of the development. Also it is able to create self-reliance and environmental compliance and needs of the people. However, a disadvantage of the method is that in global perspective, public is limited about their inexperience. The government find difficulty of development planning.

3. The Participatory is a development with collaboration between government or developer and people who are developed in a joint action in planning, developing, and evaluating. The method makes the development consistent with the environment and the needs of people. This kind of development is related to the concept of community development and agricultural development which is encouraging the response from people and the process of self-reliance would occur.

People participation development approach is the approach which is normally used nowadays. Public will be involved in decision making, planning, implementing and evaluating of such development. This kind of development causes self-reliance of people and meets the philosophy of community development.

3.4 Processes and procedures of participation

Rapeepatra (1984) stated that the process of people participation can be divided as follows.

1. To find the problem and the cause of the problem as well as the solution.
2. To decide the way of development and planning to solve the problems.
3. The work plan activities.
4. Monitoring and evaluation.

Participation of citizens in environmental resource management and is the participation in political decision making processes that affect the state by far and offer the following.

- Establishing a system of public participation in decision making.
- Encouraging people to group together by the condition of benefits, or a variety of ways and expanded to all levels, such as national and local levels.
- A public hearing process which is based on the public's legal rights.
- Have the right to receive news.
- Decentralization in improving government organization for public authorities in resource management.

People participation should have procedures for public participation in political decision making from national level to local level with acceptance in legal rights (Public hearing process). People should receive information and knowledge must be decentralized in resource management

Suwanmongkol (1985) has divided manner (steps) of people participation into four part, which are:

1. Participation in decision making.
2. To participate in operations.
3. To participate in the benefits.
4. To participate in the evaluation.

For Na Chiang Mai (1993) said that in participation in development, people should participate in the various processes of development as follows.

1. Involved in the development of problems and causes searching.

2. To participate in the planning process.
3. To participate in investment and operations.
4. To participate in monitoring and evaluating performance.

"Participation" is a keyword that scholars tend to assert about the target groups and communities in any activities. Techarin (Cited in Panyanuwut, 1996) said that people participation may have different frame shots. Traditionally, states often see in terms of emphasis on participation in joint planning, joint working and joint maintenance more than co-payments and material contributions which may be necessary. In overview, people participation in development concerns with the following.

1. Co-study the problems and causes and the needs of community.
2. Invention of the patterns to solve problems and meet needs of the community.
3. Joint projects or activities define the plan.
4. Joint decision to use limited resources to maximum benefit to the public.
5. Co-managed the development with wisdom, labor, and capital as the ability to track. Moreover, to control, assess, and maintenance the results from the actions.

And in Pinthong (1995), he identified steps that people should be involved in four processes.

1. The participation in the problems and causes searching of rural people.

This step is a first step which is the most important because if people can not understand the problems and the causes, activities that follow are useless because the rural people will be lacked of comprehension and not see the importance of the activities. One thing for sure is that rural people is the group that being with the issues and truly understand the problems. However, they are still unclear with their problems until their friend come to help analyzing the problems and causes. Officials or developers have a duty as a mirror which reflects the image or a psychiatrist who asked the rural people to see the problem and diagnose problems by themselves.

2. The participation on activity planning.

Planning activities is the next step which is necessary, because if the officers or developers need only to develop materials to be completed rapidly, the activities will be planed by their own. The consequences are if lacking of staff, rural people are

unable to plan by themselves. It would be difficult to push the officers or developers acting as a friend to help rural people in planning because other people have less education. However, if rural people are not allowed to participate in this step, the opportunities for rural people to study and develop their own plan of operations would not happen. Officials or developers need to accept that education must be started the difficult or simple, fast or slow level from rural people, not from their knowledge.

3. Participation in investment and operations.

Although rural people are poor and lack of resources, they also have resources that is able to participate in investment and operations. Because of their experiences, they, at least, are able to participate with their power. Rural people are able to participate in investment and operation in various activities. They are encouraged to think about their own costs. Moreover, they would be careful of activities because they feel that the activities are belonging to them. This kind of investment differs from state investment. All operation of external factors damage is not very seriously. Additionally, maintenance will not occur because if they do not feel the ownership, they do not maintain. In addition, the co-operation makes them learn closely and see the benefits of how to operate the activities continuously.

4. To participate in monitoring and evaluating performance.

This step is a final step which is the most important because if the tracking and evaluation lack of participation of rural people and participate only by the third party, it is not be able to assess whether the job is to get good results, receive any benefits or not. Next activities could face difficulties because rural people did not assess their own learning. Certainly, it could be a dispute that assessment most likely to come straight from a third party who did not participate in such activities. However, if focuses of human development, the focus on the third party's opinion is not given the actual benefit. The combination of people outside the rural people will be more useful. Especially, if the idea of people, who are not participate stems from other village, added in the evaluation, it would be the benefit because it would be the promotion of the activities to other areas. If the activities bring benefit for village, rural people will realize the value of any material similar to the rural people themselves.

Processes or steps in the participation of the people mentioned above, If consider the attitudes of staff, it would see that it is not easy to do it completely. Because of officers are likely to reach rural people to teach and demonstrate. It reveals the attitudes of staff that they are at the higher level and educated. It is unfortunate that the staffs are very sympathetic. Also, because of officers are higher educated as mentioned above, villagers expectation of the officials would make them too proud of themselves. Finally, they would forget the principles and techniques in working with rural people.

As mentioned above, issues of participation sufficient can be concluded that the participation of the people is that people come to play a role in causing the problem and find solution as well as deciding guidelines to solve the problem, monitoring and evaluation with all stakeholders of the project.

3.5 Nature and composition of participation

There are several characteristics of participation in community that (Techarin, 1984) divided people participation in rural development is as follows.

1. Participation in study problems and find the cause of the problems, and needs in the community.
2. Participation in thinking and create models of how to develop and solve problems of the community to create new things or useful to serve community needs.
3. Participation in policy or program planning to eliminate problems as well as to serve the needs of the community.
4. Participation in the decision making of using limited resources to benefit others.
5. Participation in co-organized or developed to improve management efficiently, effectively.
6. Participation in investment projects in community activities by their own capabilities.
7. Participation in operation follows the plan and program to achieve goals.
8. Participation in control, assessment, tracking, and maintenance projects, that made by private and government ever after.

UN. Department of International Economics and Social Affairs cited in Aphichartkriengkrai (1996) have compiled three types of nature of participation as following:

1. Spontaneous, a volunteer by themselves or in combination to solve their own acts has not received outside support, which appears to be a target for the United Nation.
2. Induced is joined by the need for approval or support from the government, which appears to have found common policy in developing countries.
3. Coercive, a participant under the implementation of government policies under management by government officials or force directly this way, was effective immediately but will not work in the long run and will have the disadvantage that not supported by most people.

Vesarach (1985) expanded the definition of people participation as the nature of participation which is quite different causes by economic conditions of countries, policy and management structure as well as socio-economic characteristics of population. Participation of people is not only a technical, but it is a key factor to ensure the development process to support the beneficial to people, which are:

1. The people participation covers opportunities making to all members of the community and society. Activity participation will lead to influencing the development process and facilitates the benefit from development equally.

2. Participation reflects the voluntary and democracy relationship in the following cases.

- 2.1 generate the development effort.

- 2.2 share the benefits of development equally.

- 2.3 The decision to target policy planning and implementation of economic and social development.

3. The people participation in decision making in local, regional and national level will cause the links between what people put money and effort and the benefits received.

4. The nature of the participation of the public may be different to each other according to economic, policy, and management structure as well as socio-economic

characteristics of population. People participation is not only in technical. However, it is important key to ensure the development process which aims to benefit people. In addition, Cohen & Uphoff (Cited in Leesuwatana, 1991) has proposed elements of the people participation that it has to include the following steps.

1. Participation in decision making consists of the beginning of decision, decides, and operating decision.
2. Participation in implementation may be in the form of participation by supporting resource, management, cooperation, as well as unit.
3. Participate in the benefits whether the material benefits, social benefits or individual benefits.
4. Participation in evaluation is participation in controlling and monitoring all activities.

From the participation of Carry (1970) outlined the format of people participation in community development into two forms, which are Representative Participation is to participate through their agents or None-Representative Participation is to participate directly.

Forms of participation are considered as the true or complete forms. World Health Organization (1981) has proposed that it should be included 4 step movements which are.

1. Planning People participate in problem analysis, priority target ranking, resources management, and evaluation tracking. Moreover, the most important things is to judge by themselves.
2. Activities Operation Public participate in resources management as well as responsible for the allocation of financial control and service.
3. Utilization People have the ability to bring the activities to be beneficial. It raises the level of self-sufficiency and social control.
4. Benefit receiving People must be distributed in the community benefits from the same base which may be personal, social or material benefits.

Consideration of participation as both goals and methods that leads to redevelopment is one step of the process that cannot be left in order to achieving the goal of development. Because of participation is the adding value to self-expression

of freedom of the people. However, people need to create their own proprietary. They are able to conclude that people participation means to be construed in a manner that focuses on providing people with an opportunity to decide, discover issues and action steps of the development. It can be said that people increase public control of resources and institutions in society, including the use of existing resources in their own society.

It can be concluded that the nature of the people participation are as the following:

1. Basis of participation. The participation which stems from internal inspiration supports people to be enthusiasm. The participant which stems from external factors have to be forced from influenced people in communities to make the participation success. However, there is no emotional binding. Therefore, the sustainability of activities or projects will be reduced.

2. Forms of participation. Participation of the people is to participate through an established organization, especially, taking into account of activities that aims at the benefit for public. The participation through representative groups, such as village director, is set in a group of supporters and assistances.

3. Scope of participation is the time to participate in activities or projects which take a different duration, frequency, times of participation, and the proper season of the activities.

4. The result of participation. Characteristics of people participation cause the power which creates bargaining power to community. It is also create a good interaction. and harmony among community members.

Tangsigbutr (1995) gave the concept of public participation of natural resource and environmental management as follows.

1. Community sustainable development has to occur on the basis of the covenant people of ecosystems for their own use under the appropriate limit in order to improve the quality of life and solve the problems by the efforts of the community together with the assistance of the government and public organizations.

2. Public relations for community to realize the importance of sustainable development by communities themselves.

3. Private organizations are important mechanism in the movement of people participation.

4. The resources management is appropriate to the development, which have to get through community organizations. It should be continuously released news, researches and study of community situation to public. Sukawong (1997) has commented that the public, generally, cooperates in the development process when:

1. The outsiders persuade what they are interested in, give them honors, offer supports, and action according to the offers.
2. People have the right to decide to use existing resources.
3. People have the right to receive benefit from these resources.

When people believe in these offers, they tend to pay attention and ask for the process of action. In addition, they cooperate in planning which is led to the participation of villagers in the various steps, as well as share resources.

Concept of people participation in development is a concept that people have to participate in problem solving. Moreover, it is an opportunity to analyze the situation that they are facing and ready to change when necessary. Development process would occur with the voluntary without coercion. People play a key role in the development and to develop self-reliant. Moreover, the results of development belong to people and community. This paved the foundation for building democracy in communities steadily. The people participation is accepted in terms of principles and mechanisms that will lead to the success of development or projects that will occur in the future whether the project belong to government, public, or private sector, or whether they are small or large, especially in projects with environmental impact (Suwan,1998). Meanwhile, vetkit (1992) has proposed a principle that people are participated that the key principles should be summarized as follows:

1. Take the needs and problems of people as the starting point of activity.
2. Activities must be operated by group of people. The local organizations work together.
3. Activities must comply with the local environment.
4. In the beginning, activities need various types of leader.

Every step of activities has to be operated by people. People need to get involved. Never the less, if problems occur, people may not be able to solve even the

problems cause beyond people capacity. Moreover, they are some practices for people to be ready to help themselves forever.

Participation, all of these, can help people though, made and self-reliance that is the learning process from the action. So the study of this research has been used as a framework for research assignment a variable participation of farmers in the economical planting in the water and soil conservation in the Royal Project as follows.

1. Participation in consultation
2. Participation in the offer and decided to exit.
3. Participation in the coordination.
4. Participation in practice
5. Participation in health care.
6. Participation in benefits.
7. Participation in monitoring and evaluation.

R.E. Kasperson and Breitbat (1974) has proposed the levels of participation were three reasons as following:

1. The action by individuals was not an action by a group that could make the analysis or conclusions invalid. Because of the expression of individual participation process will see the value, perception and behavior of individual words. Thai is, an individual's reaction that constitutes participation is reaction to show the results of the direct action of individuals.

2. The density of the action expressed by the joint action that a long period of activity or commitment and motivation.

3. The quality of participation, the results and consequences of such actions in the preliminary such as responsibility, decision making, open minded and comments on the assessment results.

3.2 Participation action research

Many scholars have tried to link the principles of development and research of people participation to be the participatory research, which is a research and development model that researchers work with community. Also, there is a link

between a part of research and a part of development. It can be summarized the key concept of Participation action research as follows:

4. Participation action research (PAR)

4.1 Concept of Participation action research

People participation development is acceptable and become a necessary condition. At the same time, there is a claim to link the knowledge of research to action. That is the reason why the Participation action research which is trying to focus the practical learning which is the main responsible belongs to researchers. However, Participation action research also has practical problems, that is, most researchers conduct applied researches. When the results occurred, researchers claim that their researches are Participation action researches. Moreover, the research approach is a practical strategy to use scientific methods in solving practical problems to access to knowledge and theory (Praputnitisarn, 2003). Therefore, this research has led to the limitation of "target" and has initiation which is considered from intensive scientific knowledge which is fixed. In addition, problem solving by using scientific methods always leads to another problem. In order to resolve this issue, individual who is familiar with the problem has to join the developing team to improve the process of practical research (Elden & Levin in Whyte, 1991). Later, there is an improvement of the new research model which is called Participation action research. This kind of research is increasing the important nowadays.

Berger & Luckmann (1971) proposed the idea that "Truth is what has been created by social ", which means that theory or knowledge about the world of scientists is not necessary to be available and reasonable more than a knowledge of the world perception that is created to described. Thus, theory or knowledge is the social product which is changeable. It is always developed by the review process and knowledge searching. The knowledge would be generated from the influence of specific situation PAR process. The process is suitable to be used as a search process for new knowledge which is changed in each context. Also, it is a learning process which is able to explain social phenomena which people, problems and phenomena itself is the generator of the knowledge

In summary, the Participation action research is an implementation process of a people or community organizations try to solve the problem with researchers by using the research process from the beginning to the completion of the presentation and discussion of research results. It is the beginning of people who familiar with problems. They have to search the problem with academics, so that it is a process that people or communities are not victims. However, they are the activators of participation enthusiastically, as well as own the power of research equally (Whyte, 1991). Moreover, academics have developed Participation action research by trying to establish a method of learning from experience based on active participation from all parties which are involved in research. This kind of research starts with identifying the problem, tracking, and assessment. The research included the characteristics of Participation action as key elements. The participation action of the method means the activities and projects which is related to every party who conduct the research. For example, jointly analyze problems or conditions of any situation which one was involved in decision-making processes and participation action until the research is completed. The Participation action research leads to the combination of these two concepts

The Participation action research is different from the natural scientific or social science research. It focuses on acceptance or approval from the villagers. In this type of research, researchers have to consider the valuation of the relationship between researchers and villagers at all time. Moreover, often review the objectives of the research to meet the needs of local people. From doing that, it would lead to the actual participation of villagers and there would be some changes occur. Some researchers who tried to push the Participation action research believe that villages are living with information and truth. They know as much as researchers or maybe more. The Participation action would leads to quality of life improvement. Therefore, the problems of research must begin with the villagers, not the assumptions of the researcher or developer. Also, they suggested that villagers, researchers, and developers should participation in problem definition and approach selection to lead to the changes. In addition, the role development of three parties is equal. It can be seen that that this type of research is a combination of knowledge between theory and methodology, goals, and objectives of the developers, as well as the needs of local

people. Praputnitisarn (2003) has proposed a philosophical concept and nature of participation that the developers have to believe that people in rural areas know what they really need to develop and their own potential to participate in the development of quality of life. She also offered the concepts of participation as follows: (1) participation is a right and privilege (2) participation is a group working. (3) Participation is an administrative process of rural development (4) participation is a measurement of rural development. Moreover, Somard (Cited in Praputnitisarn, 2003) have thought that the Participation action research which was developed earlier is process which is used among the people to develop the actual improvement of the quality of life with the theory as follows:

1. Participation action research is a process that is dynamic and starts from the actual conditions or the present problem. It is the evolution of economic, social, politic, language, culture, or beliefs. In addition, it leads to the point that should be in the future which can not be forecasted. Therefore, the meaning of participation action research will have the following characteristics: (1) flexible and adaptable (2) unable to set the time (3) unable to fore set the activities.

2. The participation action research believes that the less opportunity individuals have the ability to think and work in team.

3. The Participation action research starts from how people feel about the problem or their needs to their thought, understanding, and action which leads to the changes of both in themselves and their communities, wisdom, mind, and physical dimension.

4. The Participation action research process comprised of the pursuit of knowledge. Also, the action will be performed continuously and not only end in one cycle. However, this process would continue as long as people who less opportunity still be able to group together.

5. Local knowledge is not less important than the knowledge of academics and professionals.

Teewakul (Cited in Praputnitisarn, 2003) mentioned about Participation action research that is stems from the adjustment of strategy in the development of local communities. It can be said that it begins with government command to communication. On the other hand, villagers are the center of such development. It is

believed that human has the ability to solve any problems if they know and understand their own and community development goals. This kind of belief has been consistent with the popular current of community which focuses and empowers people and communities to set their own predestination. This research is a power point to realize the learning community and sustainable problem solving. Moreover, the PAR research is a collaborative research between researchers and community members. The research aims to study about communities focuses on community analysis to find ways to resolve potential problems with the plan and perform according to the plan. In addition, valuation phases to modify the action plan to achieve the goal. This type of research is a process that is flexible, adjustable to the events that occur during every step of the operation. In addition, community members are also partners in operation results, whether results would be positive or negative. Sumayao (1999) has proposed elements and nature of Participation action research as follows.

1. The problems of research that occurred in target communities have to originate from the analysis to understand the problem and try to solve the problems by people in the communities. The researchers outside the communities analyze the situation and issues according to the idea of their own.

2. The last goals of research is to change the social completely in order to improve the quality if the villagers' lives. Therefore, those who receive direct benefit are the goal of research.

3. Participation action research urged a participating actively and fully from community through the entire process of research from the beginning to the end, which understand and giving definition, research problems, selecting solution, information analysis, participate in activities that will follow from the study.

4. Process of Participation action research needs the less power people to participate in research, such as people who have been exploited, poor people, or people who are overbearing.

5. Process of Participation action research creates the conscious of those people to be careful of their resources and commitment to self-reliance.

6. Participation action research is a process that analysis the social reality more accurate.

7. Researchers from outside are participants who facilitate and co-learning through the process of research.

In addition, Sumayao suggested that the process of people participation leads to empower people with the following conditions.

1. People must control the project or the entire process, as well as decision making and project management.
2. Participation must be true at the political, social, culture, and economic.
3. Participation must lead to the conscious of democracy, conformity and leadership.
4. Empower people is to let people participate in the searching and describe their social world. Let them participate in learning process that creates opportunities and possibilities for new activities.

Participation action research technique with the people participation is a strategy that helps people to group together in form of public organizations. Moreover, it works effectively and has strong both its structure and Participation action. With the conditions of increasing people capabilities with information system, people accept the importance of information, are able to analyze the problems of the community. To continue such development, it is required to train villagers to conduct research and form research team of local people.

4.2 The process of participation action research

Suchada (Cited in Walaisatian, 2000) concluded the PAR processes into five steps which are the combined the concept of community management and community problem learning as follows:

1. Pre-Research Phase included
 - 1.1 Selection of communities and community outreach.
 - 1.2 The integration of research into the community.
 - 1.3 The expansion of PAR concept to community.
2. Research Phase
 - 2.1 Analyzing problems with community.
 - 2.2 Training local research team.

2.3 Analyzing problems that may occur in the PAR process and prepare the solution.

2.4 Research design and data collection.

2.5 Data analysis.

2.6 Presentation of information to the village meeting.

3. Planning Phase

3.1 Training local planning team.

3.2 Program or activity setting.

3.3 Feasibility study of the plan.

3.4 Seeking support of budget and organization.

3.5 Planning for monitoring and evaluation.

4. Implementation Phase

4.1 Team and volunteer setting.

4.2 Volunteer training.

5. Monitoring and Evaluation Phase

5.1 Establishment the evaluation team to track the performance of the village to monitor the Participation action of all phases of Participation action.

5.2 Presenting assessment to the village meeting.

4.3 Participation action research methods

Praputnitisarn (2003) said that Participation action research looks like participatory Research. However, it has been more about seeking ways to solve problems. In the study of communication, it focuses on analyzing problems and local resources to help in troubleshooting. The participation action research emphasize on.

1. Community study is the focus and thoughts of the villagers. Interviews to exchange ideas are the data collection to study current problems and needs of community.

2. Problem solving by allowing people participate in problems analyzing, local resources study in order to lead the change into the efforts of applying information about local resources.

3. People participation in project selection to lead to deployment. If there are several problems and there are various solutions to fix the problem by using local

resources, it must be considered that which problems are urgent and how to fix it appropriately. It is necessary to think in terms of economic cost. In addition, regarding to the conditions culture, beliefs, and other condition which might be occurred.

4. People participation in operation and problems solving in every step. They are able to operate any project by themselves after the research finished or when researchers are away from the area. The researcher should let people search the leaders to continue the operation. The person would be participated since the beginning to the end of the research process.

4.4 Methodology and the role of researchers in participatory action research

Research methodology of participatory research implementation has some academics have proposed that. Methodology is independent of the standard model as any. Collecting data in multiple formats allows the most will use the same methods of qualitative research. However, Participation action research involved a process more than qualitative research. There are additional operations and activities, tracking assessment, as well as revisions are generate in order to fit the research. However, the process of monitoring activities is the same as quality of research (Supang, 1989). In addition, data collection from the first enter, relation making, observation, interview, analysis need to emphasis on people participation. There are many ways to do this, such as probe, group conference, video conference, operational conference, seminar, exploration, consultation, community map making, in-dept interview, group discussions, and discussion. To achieve required information, it should be harmonized and research agreement between researchers and people in the community. Samard (Cited in Praputnitisarn, 2003) proposed that the role of researchers in Participation action research has a preliminary agreement as follows:

1. Researchers should aware of self-limitations. They should feel that they lack of knowledge. Additionally, they should recognize their value system when they interaction local people taste which are different from themselves.
2. Accept their unknown and try to learn from people in the community through friendship, mutual understanding.

3. After receiving enough information to understand of local issues from the discussion groups, researchers and villagers have to find a solution to solve the problems. This step is quite difficult and often related to conflicts, which arising from local power structures. However, to walk every step carefully encourages local people awareness and open-mind. It is able to help villagers to learn and find without impacts or lead to conflict. In addition, to solve problems with people participation is the study of problems solving

4. Outsider who enter to study about the community have to prepare study about the conflict situation between community leader, the relationships between community leaders and external power, the influence of community leader and policy and practical development. Bunthorn (Cited in Praputnitisarn, 2003) proposed the role of operational researcher of participation as the following:

1. Participation of learning is the first phase of the research. It is a consultation and exchange news. It is considered that is the beginning of the open border of friendship.

2. To create conditions of learning both of villagers, developers by training observing arrangement. For villagers, it should arrange the meeting for news distribution to psychological test.

3. To identify the roles of the two basic steps mentioned above. Both villages and researchers have to analyze the roles of each other. In this process, the identification of the roles become more clearly about their characteristics and special abilities.

4. Value step. When each party has to learn each other and starts to see the value of each other, as well as the meaning of cooperation.

5. Step activity arrangement and expand cooperation. Each party set Participation action which will be arranged together. The activities should benefit for the community. Moreover, to summarize of work and lessons from the village, and then distributed to nearby villages with the beginning from the role mentioned above to the next village.

4.5 Lesson learned of CBR in Thailand

The distilled lesson and learned lesson were the innovative research methodologies in the community based research (CBR). The ultimate goal was to develop intelligence and the thinking of the people, so all activities related to research and then when the goal is to develop people. Distilled lesson and learned lesson as a means of knowledge acquisition approaches. Knowledge management was considered the actual realization of the people that come from the action, but the action must have the tools and mechanisms that accumulated knowledge tool, it was distilled lesson and learned lesson. Therefore, they served as a comprehensive understanding of share storage accumulated from time to time the extent of distilled lessons that may be implemented both in the little group and big group as the final phase of the research. CBR also had high creativity in the roles by summarizing the lesson. The roles of the distilled lessons and learned lesson were to develop the research team, to further understanding for ensuring that researchers known enough about the research or data that may be used as a forum to write reports etc (Kanchana,2010).

Sustainable development could be created in the condition where farmers could employ the research and development that leads to improve their quality of life. This condition could be created by increasing the participation of farmers in the development process. This strategy could also be useful for the research and development of farming system including its technology transfer. However, the definition of participation needs to be clear because it was widely used in the context of agricultural and rural developments that was recently criticized as pseudo-participation or false-participation where farmers take part as the follows. In addition, the word collaboration was used in referring to the participation in the decision making process. The collaborative action research is a qualitative research which applies a holistic approach. It takes into account all factors relating to the development of farming system. It is a learning process where farmers are facilitated to be creators and decision makers in the continuous cycles of planning, action, observation of the consequence, and critical reflection on the practice and the consequence. In this learning process, changes and improvements are created by collective action base on farmer's culture. (Opatpatanakit, 1996)

In this study, I have applied people participation concept and participation action research to conduct the research based on the existing potential of local farmers. The concepts are used to extract the participation of farmers to participate in process planning of sustainable agricultural development in the highland area. The farmers would participate in analysis, consultation or discussion, solution and decision making, coordination, practice, care taking, beneficial, evaluation of the project of crops planting of soil and water conservation in the highland area with operational research in participation in the study.

5. The operations of the Royal Project Foundation

The Royal Project Foundation operates the development in the highland community which is under His Majesty patronage since year 1969. The objectives of the project are to support the hill tribe stop planting drugs crops, to promote the better occupations and conditions of life by earning their living with the knowledge of the successful research encourage farmers to cultivate and feed animals for household consumption and sale, as well as to promote self-reliance of farmers in the process of projects. Moreover, watershed restoration and conservation of the environment to be complete is promoted. At present, the Royal Projects has promoted and developed 38 target areas, are located in five northern provinces, including Chiang Mai, Chiang Rai, Mae Hong Son, Lamphun, and Phayao, with approximately 1,713,750 rais, covering 296 villages. The villagers who receive the benefit are 30,566 families with the total number of households 145,898 people (Development Department, 2008). The operation of community development projects under highland area has focused on development and technology transfer to develop quality products to reach an acceptable standard of the consumers both national and international. It is the value adding to the product. It increases the farmers' income. Consequently, their life would be in higher quality. Moreover, it also focuses on building stronger community, rehabilitation and conservation of natural resources, development and maintenance fundamentals, as well as administration with the integration within the community and local organizations. There should be the collaboration of various government organizations, both in central and regional area as well as local organizations at all levels.

The result of operational development of Royal Project in 2008, it is focused development and technology transfer to developing the quality of products to the acceptable standards of consumers, both national and international by value adding to farmer's products. It is able to generate more income for farmers' family as well as gives the better quality of lives to farmers. In addition, it also focuses on building stronger community, preventing and solving the problem of drugs, rehabilitating and conservation of natural resources, developing and maintaining fundamentals, as well as management. It is able to develop the Royal Project center to be a learning center for sustainable development in the highland area by bringing new knowledge and the knowledge of skills and experience of project staff and farmers who practice in the project transfers to farmers in the 38 area of development centers. However, from prior development, although the policy of the Royal Project Foundation focused on building stronger communities, as well as the participation of operational farmers of the project, the operational participation of people in other project is inadequate. Most of decisions based on the director, head of the center, officials, thought leaders in the community or lead farmers. Therefore, the researcher has conducted the research to determine the conditions of farmer participation in sustainable agricultural development of the Royal Project in the highland area, factors which influence farmers' participation, problems and suggestions regarding the participation of farmers. Moreover, the participation operational research of the staff of Royal Project Development Center of Royal Project and farmers to create the operational process of farmers in growing plants that conserve soil and water in the highland areas which is a project that is under the operation of the Royal Project. It is expected that it would be the process model of participation to expand to other areas.

6. The related research

In this study, the researcher found the related study to be included in the research as follows.

6.1 Factors Contribute to People Participation

Chaimuang (2000) studied the people participation in water resources conservation: case study Wiang sub-district, Chiangkam district, Phayao province.

1. Sample group insights on water resources conservation which was not different in water resources conservation affection.
2. The participation in the resources conservation of the sample, separated by occupation, was not different in water resources conservation affection.
3. The participation in the resources conservation of the sample, separated by the perception of water resource conservative information, was significantly different with statistically at 0.05 levels.
4. Condition of problems and barriers of people participation in water resources conservation was moderates. Moreover, it is found that there was no difference statistically significant at 0.05 levels.

Aphichartkriangkrai (2000) studied people participation in water resource management: case study Lum Ta Kong, Nakhon Ratchasima province found that local people at Lum Ta Kong basin were low or lower participated in water resource management. Roles of problem presenting or meeting, role of the planning process, role of payment, role of problem solving, and role of monitoring or evaluation of various activities was often motivated by persuasion or initiated by various government organizations because people think that management is responsible for matters of government organizations only. Yet, if there was any government organization requested for participation, local people were ready to participate. Most of the projects have no such cooperation with the proper system. However, the project will be in the form of short-term policy just as simple. The role of the public had not been promoted aggressively. While the lower level government organizations, local administrative organizations, local people, private development organization have tried to combine all of organizations relevant to Lum Ta Kong in order to co-management, but it was not successful because they did not set the clear role of each organization. The opportunity was a provision in the policy and law.

Pongsak (cited in Kaewsom 2004) studied the participation of agricultural cooperatives members of Muang Lampang Co. Lampang Province. It is found that participation in the activities of four cooperative activities, including seven differences of activities, such as participation in the trust business, sales business, purchase business, deposit with the cooperative, deposit with health supporting fund and member welfare, group meeting attendance, annual general meeting, taking

training meetings held by the cooperatives or related organizations. For the participation of cooperatives in two activities which were not different were holding stocks of the cooperatives and cooperative service in export business promotion.

Injinda (1999) studied the participation in natural resource and environment conservation in Ban Pong sub-district, Sansai district, Chiang Mai province. The results showed that.

1. The participation of the Ban Pong community in natural resource and environment conservation about decision making and operation were at low level. The benefit receiving was at moderate level, and evaluation was at low level.

2. Local people benefit from natural resources and environment at moderate level. Moreover, the benefit from Ban Pong development project under His Majesty Patronage was at moderate level.

3. Different occupation and duration of being member provided different level of participation of natural resource and environment conservation.

4. Different duration of living in the area provided indifferent level of participation of natural resource and environment conservation.

5. Benefit from natural resources and environment and the level of community participation of Ban Pong community participation of natural resource and environment conservation had the correlation value .6535 and statistically significant at .01.

6. Benefit from Ban Pong community development projects under His Majesty Patronage and the level of community participation of natural resource and environment conservation had correlation value .5957 and a significant statistical level of .01.

Buakleebai (2000) studied of farmers' participation in forest conservation and community development Ban Pha Sak Ngam, Wong Nua sub-district, Doi Saket District, Chiang Mai province found that the levels of participation in forest conservation and development, information receiving, communities were highly participated in monitoring and evaluation. For the operation and planning were moderately participated.

Factors which were correlated with the participation of farmers, Ban Pha Sak Ngam, in forest conservation and community development, including individual

factors, such as age and education level was correlated with participation with significant and important, respectively. For economic factors, it was found that total household income was related to the participation more significant. Also, the social factors and attitudes found that attitudes of farmers towards the forest conservation and community development were correlated with participation with statistically significant.

Most farmers had no obstacles of participation in forest conservation and community development. In addition, the regulations, laws and practices that farmers may not understand and difficult to follow was still some problems.

In Somrit's studied (1999), it is the studied of the participation of monks in the forest resources conservation, Hod district, Chiang Mai province. The research found that the Buddhist monks average age was 40.95 years old, rainy season rainy season averaged 7.21, level education, most graduated at Grade 4. Most of them study at Buddhist education degree. Most of them were general monk. The average number of members was 8-9 people in a temple. The forest resource information received was from broadcast, newspaper, and publications. Most of then had never thought to contact with forestry officials.

The attitudes of the monks towards the conservation of forests resource showed that Buddhist monks have found that the monks have agreed (mean 2.81). The issue that monks were highly agreed was monks persuaded people to forest conservation. On the topic of the knowledge about environmental conservation found that most of the monks had much knowledge of environment conservation. The participation of monks in the conservation of forest resources found that Buddhist monks were participated at low level (mean 2.27). The participation in planning was at least level, the participation in operations was at low level, the participation in evaluation was at high level, as well as the participation in benefit was at high level. It was also found that the monks participated in the cost receiving to be the budget of forest resource conservation activities.

Honghiran (2001) studied the people participation in the management of Phayao lake and the surrounding areas found that

1. The people participation in the management of Phayao lake and the surrounding areas between the rural population and urban population were different.

2. To compare patterns of participation in the management of Phayao Lake and the surrounding areas between people with different personal factors found that urban populations participated in the management of utilization and conservation while the rural population participated in maintenance.

3. People in the Muang Phayao districts, in Phayao Province participated in the management of Phayao lake and the surrounding areas at low level.

In the studied of Rernsorn(2000) about the participation processes of intrusion prevention to public areas of community surrounding the Phayao Lake. It is found that

1. The most the examples recognized the intrusion in the area of Phayao lake at moderate level, with 40 people which was representing 53.33 per cent.

2. The participation process of community was understood of the problem. The barriers in receiving information of invasion of Phayao Lake which affected to life was at moderate level.

3. Factors that was associated with the participation of the sample community, participation in planning, decision making, and surveillance the intrusion of Phayao lake was at moderate level.

Kriangsak (cited in Kaewsom 2004) studied the factors that determine the behavior of participation in the activities of cooperatives. It is found that occupation, age, land holding size, member duration, time of contacts with cooperatives per year, number of loan from the cooperative, total deposits in cooperatives, the amount of money from selling rice to the cooperative, time of purchasing from cooperatives per year, facilities, being the cooperative committee, social activities participation. Knowledge of the types of operation of cooperative businesses, the awareness of people in cooperative and cooperative promotion was positively correlated with statistically significant with the participation in the activities of cooperatives. From the regression analysis, it is showed that 87.60 percent of the variability of participation in the activities of cooperatives was a result of cooperative promotion and distribution, time of purchasing from cooperatives per year, The number of times to contact the cooperative in the year, time of contacts with cooperatives per year,

total deposits in cooperatives, the amount of money in purchasing from cooperatives per year, and member duration respectively. Jirapat (1996) studied the people participation of sub-district council in Mae Hong Son Province. It is found that factors affecting participation in higher levels, including group membership. Therefore, to group in form of a community organization resulted in the participatory development to be stronger and more efficient. Srisaicharoen (2000) which was found that participation of people in the administration of District Administration, Ban Hong sub-district, Lamphun province formed of participation through representation is the local administrative member which was elected by villagers. They participated as members of groups which were established in the village. The reasons for such participation were to have the opportunity to join their local responsibilities which would supplement the villagers to be stronger. Moreover, they would like to monitor the local administrators' operations. Thani (cited in Kaewsom, 2004) studied about the participation of members and the result of agricultural cooperatives business in Thailand. The study found that the variables in participation of members which was related to agricultural cooperatives business including the attendance of the large conference, the attendance of member conference, deposit with the cooperative, loans to cooperatives, the cooperative purchasing, and debt to the cooperative.

For Sangkanjanavanich. (1995) studied the certain factors that affect participation in group activities of housewives in Amphoe Mueng Ang Thong, Ang Thong province. The results showed that factors affecting participation in group activities of three types of housewives was consolidated meeting, public events, satisfaction with ability, responsibility and cooperation committee in group activities group, group member satisfaction in group activities and meetings including work and public events, exposure of staff housing agriculture and management groups, providing knowledge to the document, to be organized to visit and training in agricultural housing works for subscription of the agricultural district including travel to meet the group office, home or farm, the introduction of agriculture and the management group housing works to visit the demo application in agriculture and training in agriculture. Singhon (1996) studied the economic and social decisions affecting project restructuring of agricultural production and farmers in Ban San Kantha, Tanbon Rung Rong Thong, Mae Wang District, Chiang Mai Province. The

results found that literacy, the perception, income, size of land ownership, household labor and investment relationship and decided to join the project and the restructuring of agricultural production correlated decisions and participate in restructuring agricultural production systems. In contrast, age, dealing with staff support and has a position in organizations had no relation to the decisions of farmers in any project. The reasons for not participating farmers because farmers do not want the liability and does not ensure that revenue will increase, whereas the farmers participating in the project because those received low interest loans received support factor and that revenue will be higher than making off-season. and Sripakdee (2001) Studied the farmers' decision making process on the participation in subsistence agriculture project in san sai district, Chiang Mai province show that factors significantly related to decision making process on the participation in subsistence project were educational level, unemployment status, receiving of agricultural knowledge, communication with extension workers and awareness of the project. For the farmer's decision making process on the participation in the project, it was found that there were 4 steps within the process. Those were problem analysis, alternative determination, evaluation of the alternative and decision making accordingly. The study of Yuwadee (1984) on the affecting factors in the participation of the people, a case study of water users for agricultural land reform program Theparat public, Tambon Dong Khon, Sawankaburi district, Chainat Province. It was found that participation in various stages of the group members who use the water upstream and downstream areas didn't have any different, except for attitudes towards participation. Among the factors that affect participation, it was found that production per year and performance in reading were the most important to make the participation of people in various stages. The number of family members, attitude towards participation and opportunity to participate as a lower priority, in contrast, age and sex were associated very low. In addition, further research was the highest opportunity to have participation. Achievement motivation, sex, yield per year significant reduced the opportunities to make participation, respectively.

6.2 Participation Process Development

Preechapanya (2004) studied about the use of science tools and local ecological knowledge to river basin management with community participation. The results showed that the participation of communities in water basin management occurred from stimulation of local researchers and a local leader with the level of participation was at moderate levels. The research result has found that to promote the participation in water basin management, it should be worked with the group of farmers than individual farmers. For Kaewsom (2004) study about development process for participatory administration of chaiprakan dairy and agricultural cooperative Ltd. It was found that the development process of participatory systematic management was as followed: 1) formulating core team for operating committee; member representative and staffs representative, 2) organizing workshop among core team to analyze the past management and develop new participatory management approach, 3) organizing workshop among the member for their recommendations towards new participatory management approach especially the action plans, 4) implementation of new action plan, 5) organizing tri-month workshop to evaluate to implementation process and output.

Agricultural housewives group in Tambon muang kai (2008) studied and develop group management and Assam tea marketing of agricultural housewives group in Tambon muang kai, Amphoe Mae Taeng, Chiang Mai Province in order to enhance the management effectiveness and strength. The appropriate guideline for marketing management was also provided to be applied for future problem solving related to order communities under the Royal Project foundation. This local-orient research was mainly conducted by the villagers as the researchers in collaboration with the research counselors from the Royal Project foundation and Thailand research fund. The first stage aimed at 1) supporting self-learning and potentiality evaluation to the villagers 2) studying general process of tea production compared to miang production 3) surveying the tea market in other communities and 4) observing the local research conducted by other communities. According to the first stage study, it was found that the community earned 4.7 million bath yearly in miang production while 1 million bath was required for the production cost, for with the fire wood used

in steaming process was mostly paid. On the other hand, they earned 700,000 baths yearly in tea production while the production cost was required in a lower price, for with only a labor wage was paid.

For Sila et al. (1999) studied the development of guidelines for the welfare of his village in the Royal Project area, the results showed that activities under the framework can operate to prevent and resolve all villages in the area of labor and improved the development while some indicators appear in some villages, it has the same circumstances indicate that long-term will be better. In addition, framework and model used for experimental studied were appropriate and could be applied in other areas the following guidelines for activities:

- Activities to assess community can be used to analyze data from many of the meetings together, small group discussion, query or data analysis community.
- Activities to stimulate and promote cultural awareness. The activities must focus on the community how to think and compare between what is good and ever changing lifestyles.
- Activities to improve awareness and spread information. The media must focus on community media is the most powerful media people.
- Activities to improve the development potential of the enterprise networking communities then can do in terms of activities, excursions and training seminar.

Thongma *et al.* (2007) studied about Agricultural Cooperative Members participation in Agricultural Cooperative management under Royal Project Development Center, Chiang Mai Province, Thailand. The result of this research was followed by the McKinsey's 7-S framework of management; it found that, the respondent in style and systems of agricultural cooperative management. On the other hand, the respondent exhibited pseudo participation in five components as following. 1) strategy 2) share value 3) staff 4) skill and 5) structure of agricultural cooperative. They had been only assistencialism. It also was found that the members and manager staffs had participate in strategic planning on the determination of vision, mission, objectives and action plan. Thus this was a part of the factors affecting the success and sustain of agricultural cooperative under Royal Project Development Center.

Viratnipawan et al. (1988) studied the role of local organizations with the management of environmental and natural resource management. The results found that local organizations demanded people that can participate in thinking, decision-making and implementation related to resource development and the environment. In addition, it was found that monks and teachers have a role in the development of resources and the environment. Moreover, the participation of males was higher than females. Kin Rapeepat studied the Mae Klong River Basin, Rural Development Project (1988). It was found that patterns of participation of the people in the community consisted of 3 steps.

1. Participation in the search problem, considered the problem, prioritize the problems and participate in decision-making process.
2. Participate in the cause of the problem.
3. Participation in the approaches and solutions, including project planning process, policies and objectives of the project.
4. Engagement in activities to solve problems such as projects that do benefit the project.
5. Participation in activities such as evaluation of results of projects that achieve the objectives lay down or not.

From studying many researches on the issues of participation that mentioned above, researcher has been selected the related variables to the study of people participation in sustainable agricultural development in the highland area of the Royal Project in Chiang Mai province. The assembly of the study to determine the quantitative variables for this study. Bring the data and results of research on the development of participation in various development activities with the participation of communities or local people into consideration in the process of qualitative research methods in order to conduct the study to be useful in the future.

Conclusion

In this chapter, I have employed the theory of sustainable development and people participation because sustainable development is said to support needs of both the present population and the next generation in the proper while and at the same time its concept of this theory covering aware of urgent need to protect and rehabilitate the natural resources for the next generation. In addition, this theory has arranged many schemes to not only to conserve the natural resources but also developing in all areas such as socio – economic, the natural, spiritual, cultural, etc which is focused on good living. Therefore, sustainable development is generated from join effort of various sectors to develop the potential of people and to solve the problems by themselves using local intellectual and technology from community's potential so they would not need much of the external support.

For people participatory and development, it can be concluded that if the people have a chance to manage and keep the ecological system balanced and as well, under this development combination and accumulated know ledges, join forces together to decide their own destiny which becomes the right community mechanism. It can be said that people participatory of five main factors such as the government, private sector, NGOs, academic and the people are the success key development. In practical term, it involve participatory between potential local leader and team in setting development activities to suit the individual's need and certain facts of community at the first stage, along with the expansion of educational opportunity to all is required in order to find the way of problem solving which will then lead to opportunity and suitable policy and which also desirable results in the long term.