

Low Carbon Agroforestry Farm Innovation with Planet Civilization for Sustainable Development

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Abstract

Research objectives are to develop an innovative model for low-carbon agro-forestry farms in accordance with the Noble way of sustainability according to the 5P principles, which covers all 17 SDGs according to the goals of the United Nations, including People, Prosperity, Planet, Partnership and Peace for residential condominium communities. The research method was carried out in the study area, namely the community in the Lumpini Seaview Jomtien residential condominium, Nong Prue Sub-district, Bang Lamung District, Chonburi Province in the period between October 2022 and October 2023. The target group is 10 community officials and 30 community household members residing in condominiums in the area participating in the project activities. The method of collecting research data includes focus group discussions, small group discussions, in-depth individual interviews, observation, and documentary research. Data quality checking uses the principle of triangulation and the analysis of data. The study found that the model of low-carbon agroforestry farm innovation consists of (1) the planting in 5 zones including, Zone of HAF hole or vegetables and biofertilizer, Zone of HAF climber plants, Zone of HAF fruits, Zone of HAF herbs, Zone of HAF sprouts (2) Natural agriculture learning center; “Organic agroforestry reducing carbon” (3) Sustainable green sharing system (4) Planting rental system in the Zone of HAF Sprouts for consumption or the growth of additional income for the community and the seed supply chain certified by organic organizations to enhance income for local Thai farmer networks (5) Low carbon agroforestry farm analysis system by the network agency in the QAR project (6) Benefits of innovation in physical, mental, social, intellectual, economic, and environmental health.

Keywords: planet civilization, sustainability, innovation, agroforestry, low carbon

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Introduction

Thailand continues to achieve the Sustainable Development Goals. According to the United Nations policy, there should be effective implementation of the Thailand version of the SDGs (localizing the SDGs) to be consistent with Thai society, culture, and wisdom. His Majesty King Bhumibol Adulyadej bestowed a valuable legacy on the sufficiency economy which is the key to unlocking the international goals of the United Nations and His Majesty's royal command of His Majesty King Vajiralongkorn described it as Sustainable Agronomy, resulting in a model for achieving development goals according to Dhamma or SDGs according to the dictation and culture of Thailand with Buddhism as the basis of the concept of the path in achieving civilization, consisting of 5 stages of civilization, namely; civilized people, civilized planet, civilized prosperity, civilized partnership, and civilized peace. This can be developed as an agricultural civilization. Human beings must be developed to be civilized first and must relate to the civilized social landscape as a civilized planet. The development to be conducted must be civilized prosperity. It is the development that does not destroy the economy, society, and environment and must be implemented with the cooperation from all sectors to become a civilized partnership and contribute to Thailand achieving its goals (Phra Dhamma Sakyawongwisut. 2022). Agricultural civilization or developing the country to be civilized in the beginning is to achieve the United Nations' sustainable development goals, which have 17 goals, 169 objectives, and 232 indicators (244 indicators in total, with 12 duplicates) These are unspecified goals but indicate a broad goal, however. United Nations Presenting activities based on the 5P principles cover all 17 SDGs according to the goals of the United Nations, including People, Prosperity, Planet Partnership, and Peace, to make understanding of the SDGs easier. The United Nations requests all governments to create policies. Achieving the Sustainable Development Goals is a national agenda provided by the United Nations. The method is not specified which expresses the intention for each country to create its methods in corresponding to the different social cultures of each country. To lead

to the achievement of the same universal goal throughout the world as well as the path of achieving agricultural civilization, the agricultural civilization with Buddhism as the basis of thought is the principles of the Noble path, which consists of 8 elements and the 5P principles of the United Nations can be understood as the same thing. That is, correct knowledge (right view), which is a meritorious thought, creativity (right mindfulness), and mindfulness (right mindfulness), which is the remembrance of knowledge or intention of civilization towards becoming an agricultural civilization that is concrete to be a Civilized people, there must be communication that is meritorious (right speech). To become a Civilized Planet, one must have diligence and never surrender (Right Focus). To achieve Civilized Prosperity, one must have work that does not cause economic, social, and environmental harm (Right Livelihood). For Civilized Partnership, which requires remembrance of civilization with mindfulness (Right Mindfulness). For Civilized Peace, there must be determination (Right Concentration). When this is the case, following the civilized path will have the effect of creating an agricultural civilization. (Phra Dhamma Sakyawongwisut. 2022).

Prototype innovation is something new that has never been seen before in an organizational unit, country, or world, and it is something that can be used. To create economic, social, and environmental benefits using innovation, new inventions, which are new processes or new products for entrepreneurs must be different to seek benefits and business opportunities and services that are different from competitors and to create output, results, and impacts or create benefits to society in a broader territory (Drucker, 2002). Innovation is a creative thing that is developed from an existing prototype or is it something that is newly created by humans which can be both abstract and concrete.

However, the characteristics of innovation must consist of 3 things; 1) Newness; something that has been newly developed which may be a product or a process. It must be the improvement or development from the original 2) Economical benefits; innovation must create added value by developing new things 3) The use of knowledge and creativity must be based on the new development. It is not a result of copying

or duplication (Schilling, 2008). The innovation process consists of 1) Search, which is the exploration of various environments, both internal and external 2) Selection, which is the decision to make choices to apply them for maximum benefit 3) Implementation, which is the transformation of potential signals into the creation of new things and release of those things to the market and 4) Learning, which can be used to develop those innovation processes to have better efficiency (Utterback, 2004), which is consistent with the development of prototype innovations for Civilized Planet. This is a model of environmentally friendly agriculture that is newly created and is a practical idea that can be used for actual application and disseminated to the community.

The purpose of this research is to study methods for developing innovative low-carbon agroforestry farms for sustainable development according to Buddhist civilization principles in the residential condominium community of Nong Prue Subdistrict area, Bang Lamung District, Chonburi Province.

Research methodology

Research area in condominium community studied is the Lumpini Seaview Jomtien, Nong Prue Subdistrict, Bang Lamung District, Chonburi Province, the research conducted between October 2022 and October 2023.

Research population

(1) Personnel type information source or the informants are 10 persons under the juristic person of the condominium community who are responsible for taking care of the community. It is a specific random sampling group responsible for implementing the project as approved by the juristic person committee and community members residing in condominiums who were researched in the area applied to participate in the activity. A total of 30 households were randomly selected as community members who were owners of condominiums. The residents of a condominium building are those interested in applying to participate in community activities related to the innovations studied in this study and is a person interested in Buddhism and wish to participate in the training to provide basic

agricultural knowledge in the community for quality of life that the research team has organized to provide knowledge before collecting data from the informants. The research has gathered data from the research population, which is a personal data source or information provider through specific group discussions, small group discussions, in-depth individual interviews, and observation.

(2) Document sources include academic textbooks, journals, office documents, government records, government personal documents including various articles. The research has gathered information from the research population which is a source of information in the form of documents.

Details in the questions used in the interview are divided into 5 parts as follows.

Part 1: Notification of research objectives including details of the project along with asking for consent of the informant.

Part 2: Characteristics of low-carbon agroforestry farm innovation according to the Civilized Planet approach according to the sustainable goals following the 5P principles in residential condominium communities, Nong Prue Subdistrict, Bang Lamung District, Chonburi Province.

Part 3: Components of the specific structure of the low-carbon agroforestry farm innovation according to the Civilized Planet approach according to the sustainable goals following the 5P principles in the residential condominium community, Nong Prue Subdistrict, Bang Lamung District, Chonburi Province.

Part 4: Specific management of low-carbon agroforestry farm innovation according to the Civilized Planet approach according to sustainable goals following the 5P principles in residential condominium communities, Nong Prue Subdistrict, Bang Lamung District, Chonburi Province.

Part 5: Activities related to innovative low-carbon agroforestry farms according to the Civilized Planet approach and sustainable goals following the 5P principles in residential condominium communities, Nong Prue Subdistrict, Bang Lamung District, Chonburi Province.

Part 6: Benefits of innovation in low-carbon agroforestry farms according to the Civilized Planet approach and sustainable goals following the 5P principles in residential condominium communities.

Research data collection

The research is designed to collect data from focus group discussions, small group discussions, in-depth individual interviews, observation, and documentary research.

Thus, in checking data quality, all researchers and research teams will collect data themselves in the presence of primary information sources which is the search for knowledge that is true from the genuine source, the root of information (Grounded theory).

Characteristics of data: documents, essays, transcripts, photographs, objects, etc. following the nature of the data of this qualitative research. Not only information from documents is collected and photocopied, but it is also an essay written from the findings from observation in the field and the data derived from focus group discussions as well as small group discussions and in-depth individual interviews. The recorded tape will be carefully transcribed to prevent the conversion of substances (etc.). Priority will be given to the content of all information. After that, photos obtained during field data collection, sketches, and images or data objects will be taken as a whole which will be categorized for data analysis.

Transcription of tapes is carefully conducted to prevent ethic transformation, that is, to give importance to the content of all information. After that, photos obtained during field data collection, sketches, and images or data objects will be taken as a whole which will be categorized for data analysis.

For the data quality inspection method, the principle of triangulation is used. The main point is how to search for collecting the information from different methods, different times, different places, and different people who actually know (difference key informant/person), when similar information is stable and reliable obtained together. Because the information is monotonous, repeatedly confirmed and traceability that can be used for analysis.

Data analysis

In-depth interview data were used for content analysis, synthesis, and interpretation to present guidelines for creating prototype innovations for low-carbon agroforestry farms in the condominium community area of study including the Lumpini Seaview Jomtien Project, Nong Prue Subdistrict, Bang Lamung District, Chonburi Province.

Priority on data analysis will be given to interpreting the meaning of content, phenomena, symbols, evidence, etc. obtained from the categorization. After that, it will be considered to find meaning by applying academic principles regarding such issues as health behavior, access to health services, etc., repeatedly and with a straightforward interpretation from that phenomenon (Linear interpretation). Then, if the phenomenon is not clear or is ambiguous, the principles of interpretation will be used by applying academic principles, traditions, culture, values, etc., and interpreting them in an indirect manner (Spiral interpretation).

The steps are the process of preparation. Data analysis.

- Transcribe data, sort data, and display data characteristics, What is the content.

- Consider the substance and content of the information issues that are covered in detail

- Define rough code (Axial Code) along with definition or meaning.

- Read data and identify rough codes in the content of information that appears.

- Design the table of contents outline classified according to the main points and a group of secondary issues such as details to be used in categorizing data.

- Group the main points into boxes or into files (folders) in case of organization of information as well.

- Group into sub-issues from the group of main points.

- Write the results of data analysis by interpreting the meaning from groups of issues that have already been grouped. Describing in the form of a lecture narrative format with phenomena that contain pictures, diagrams, objects, and words (Quotation) presented in the form of information for narration.

Results

In the research of prototypes and developed prototypes of the Noble Bhumibol Adulyadej according to the principles of Buddhism for Environmental management system for sustainability in a case study of low-carbon agroforestry farm innovation at the Lumpini Seaview Jomtien Project, Nong Prue Subdistrict, Bang Lamung District, Chonburi Province (Figure 1), results of the study revealed in 5 parts as follows:

1.Characteristics of the innovation of low-carbon agroforestry farms according to the Civilized Planet guidelines according to the sustainable goals following the 5P principles in residential condominium communities, at Nong Prue Subdistrict Area, Bang Lamung District, Chonburi Province.

The purpose of innovation is to promote the environment in the resource dimension, environmental innovative technology dimension, dimension of waste and pollution, and human and social dimensions. The innovation focuses on being a source of carbon recovery using a new type of organic agroforestry planting system which has elements of management and structure of a new planting system. The purpose is to enhance the good health of the community both physically and mentally by consuming safe organic produce from the organic farming system being a space to relax the mind and promote participation in natural resource conservation in terms of biodiversity of plant species, soil, and water conservation and to encourage community members to participate and propose creative ideas to further develop innovation by connecting innovation with community activities.

The characteristic feature of the low carbon agroforestry farm innovation is the structure of the system of 5 planting zones and the learning center. “Organic agroforestry reduces carbon” including a sustainable green sharing system and a system for renting young trees as well as a low-carbon agroforestry farm analysis system.

2. Management and driving innovation of low-carbon agroforestry farms according to the Noble Guidelines and sustainable goals following the 5P principles in residential condominium communities, Nong Prue Subdistrict Area, Bang Lamung District, Chonburi Province.

2.1 Innovation management structure

The management structure of innovation for sustainability plays an important role in ensuring the sustainability of innovation operations, which includes: The Innovation Advisory Board, which is the initiator of the innovation and those involved with the innovation. The innovation Manager whose role is to coordinate and oversee innovation and activities who should be the juristic person manager under the supervision of the community juristic person director.

Volunteer lecturer team. It is a team providing knowledge from educational institutions, various government and private agencies in the form of social networks such as universities, etc., and community members participating in various activities related to innovation. These are the driving forces for collaborative innovation.



Figure 1. Residential condominium communities and installation points of innovative low-carbon

2.2 Innovative implementation steps

The implementation process of innovation begins with consideration to create innovation by the condominium juristic person committee by setting up a working group, linking the capital and local potential to provide information for innovation management and providing suitable locations in community areas that have the potential to be accessed by members and interested citizens. Public relations and organizing activities to connect innovations to involve clearly defined community activities, such as general meeting activities, activities on New Year's Day, Songkran Day, Loy Krathong Day, fire drill activities, etc., as well as organizing learning activities by opening study tours and organizing training on innovation for community members and interested citizens and integrating network partners and collaborating with various organizations in innovation activities and promoting the expansion of innovation results to more organizations, such as Kasetsart University, Agricultural Training and Development Centre (Wat Yansangvararam Woramahaviham) Under His Majesty The King Initiative Bunkan-
chanaram International Meditation Center.

3. Specific components of low-carbon agroforestry farm innovation according to the Ariyabhummi approach, sustainable goals following the 5P principles in residential condominium communities Nong Prue Subdistrict Area Bang Lamung District, Chonburi Province

A distinctive component of the HAF FARM low-carbon agroforestry farm innovation, the target group of the innovation is a community in a residential condominium. In urban areas where there are requirements for sustainable green space of at least 50 percent of available space according to the Building Control Act of 1979, outstanding elements of the low-carbon agroforestry farm innovation are as follows:

(1) The structure of the innovation planting zone system is divided into 5 zones as follows (Figure 2-3).

- Zone: HAF Hole or Vegetables and biofertilizer: Area for growing fast-growing organic vegetables for daily consumption. It has a structure having the characteristics of a circle including 2 parts: the inner circle is the part where food scraps or organic scraps are added to cause microbial decomposition to become biological fertilizer containing minerals for plants grown; the outer circle is the part where vegetables are grown. Everyday kitchen gardens such as basil, basil, mint, and lemongrass (Figure 5).

- Zone: HAF Climber: The area for growing ivy grows quickly and has a lot of biomass.

- Zone: HAF Fruits: The area for growing fruit grows quickly and produces a large amount of produce. Easy to maintain including fruit trees difficult, such as lemons, okra, green papaya, mulberry, and bananas.

- Zone: HAF Herbs: The area for growing medicinal plants is the area where fast-growing

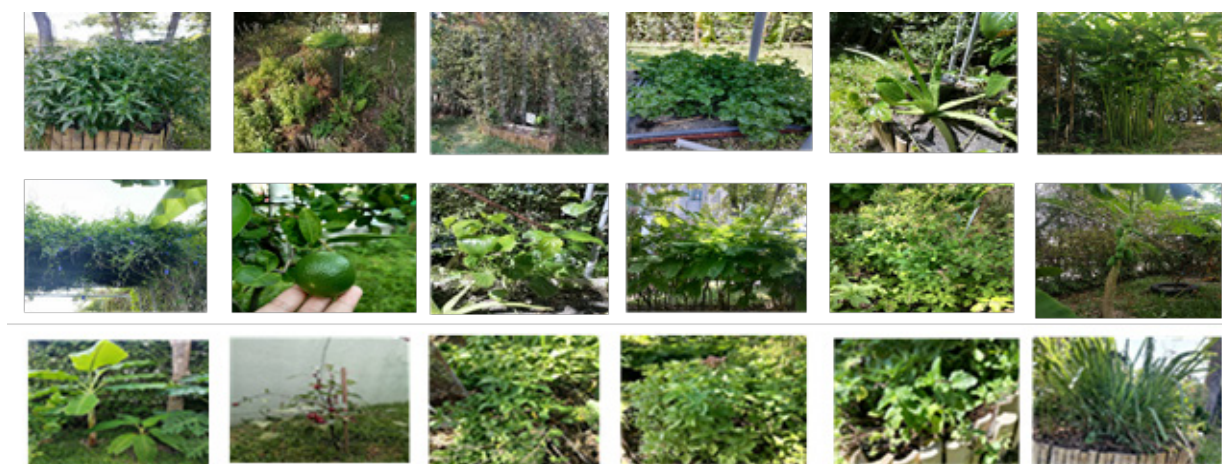


Figure 2. Biodiversity of Plants in zones of innovative low-carbon agroforestry farms.

medicinal plants are grown that can be produced, consumed, and used directly without processing into products such as karyiat, aloe vera, and stevia.

- Zone: HAF Sprouts: An area for growing plants and harvesting young plants for quick consumption within 15-30 days, with easy of maintenance. It is natural growth without the use of chemicals. The types of seedlings recommended for planting include Thai rice sprout, sunflower sprout, morning glory sprout, perilla sprout, and chickpea sprout, chickpeas sprout, black sesame sprout, chia seed sprout, broccoli sprout, red amaranth sprout. Roselle sprout, radish sprout, and green pea sprout. The condominium community can make this part

a rental zone for community members who wish to grow young plants according to their needs. Products from planting systems in various zones of innovative low-carbon agroforestry farms with types of vegetables, various types of plantings and setting expected yield targets for free distribution to community members when participating in various activities of innovative low-carbon agroforestry farms and condominium communities. This includes when members of the condominium community come to pay utility bills and annual common fees with the Condominium Juristic Person Office (Figure 4).

(2) Natural Agriculture Learning Center “Organic agroforestry reduces carbon” promotes and disseminates results to communities and interested parties



Figure 3. Structure of the planting system in an innovative low-carbon agroforestry farm



Figure 4. Activities of Zone: HAF Sprouts in the innovative low-carbon agroforestry farm

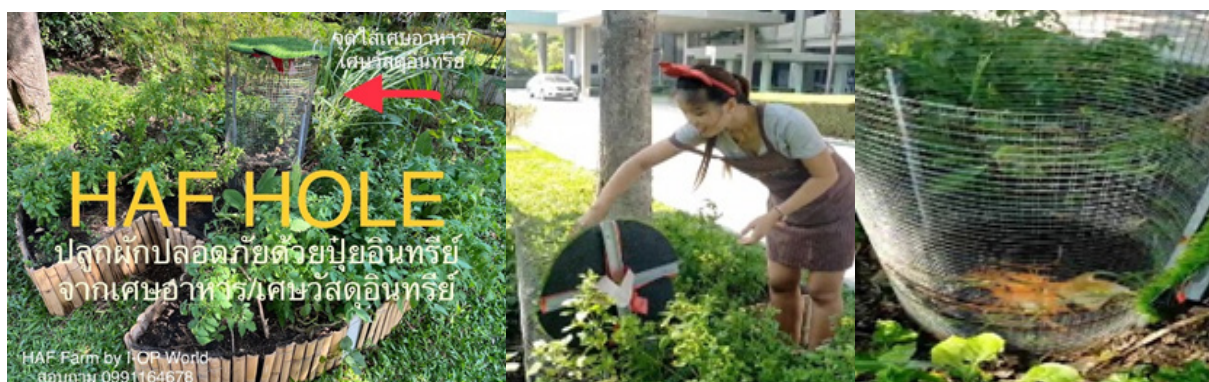


Figure 5. Community participation in organic waste to biofertilizer in the farm

ฟาร์มวนเกษตรคาร์บอนต่ำ HAF Farm (Low Carbon) by i-OP World		
ศูนย์เกษตรอินทรีย์ธรรมชาติ อาคารชุด ลุมพินี ชีว จอมเทียน พัทยา		
สอบถามข้อมูล HAF Farm โทรศัพท์ 099-1164-678 (Dr.Key)		
องค์ประกอบของ HAF FARM <ol style="list-style-type: none"> 1. ศูนย์เรียนรู้ "วนเกษตรอินทรีย์ลดคาร์บอน" 2. เก็บพืชผักกินฟรี แต่ให้นำเมล็ดมาแลกเพื่อปลูกต่ออีกชิ้น 3. สมัครเข้าปลูกเพื่อเป็นรายได้สำหรับส่วนกลาง ซึ่งให้บริการดูแลรดน้ำใส่ปุ๋ยให้ 4. เสริมรายได้ให้ผู้อาศัยและผู้สนใจ กรณีสมัครเข้าปลูกจะสามารถลงทะเบียนขายคืนผลผลิตให้โครงการได้ 5. อบรมเกษตรอินทรีย์ฟรี 	HAF FARM composition <ol style="list-style-type: none"> 1. Learning center on low carbon micro farm 2. Free for organic plant food 3. Rental micro farm with maintenance to make income 4. Training for organic farm 	พืชและผักปลอดภัย <ul style="list-style-type: none"> • เมล็ดพันธุ์อินทรีย์ • ดินอินทรีย์ • ปุ๋ยอินทรีย์ หน่วยงานตรวจรับการรับรองเกษตรอินทรีย์ธรรมชาติ

Figure 6. Natural agriculture learning center on condominium communities, Chonburi Province



Figure 7. Training for innovative low-carbon agroforestry farm for community members

both in the country and abroad, such as organizing training courses on organic forestry innovations to reduce carbon to improve the quality of life and spirit for free for community members and interested citizens and opening for study tours where the target group consists of community operations officer under the condomini-

um juristic person, residential condominium community members, and interested citizens including various organizations (Figure 6-7).

(3) A sustainable green sharing system, meaning community members can collect free, unlimited produce in a self-sufficient manner from innovation, and

members can donate seeds and plants to culture seeds continuously and sustainably in the innovation area.

(4) Planting seedlings rental system: community members can rent plants in the zone of seedlings and young rice leaves (Zone: HAF Sprouts). The planting rent is the income from planting rent and selling organic seeds as income for the community center which is the condominium juristic person of the community. The condominium juristic person will provide care services, watering, and biological fertilizer for young plants rented by community members who plant them which community members can grow for consumption or grow for additional income where community members can register to resell products such as young rice leaves to projects in the innovation demand network such as the

i-OP World project in the case where community members purchase seeds to plant young rice leaves through the condominium juristic person who is a distributor of organic seeds for farmers, which is an innovative supply network certified by the Rice Department to enhance income for Thai farmers (Table1).

(5) Low-carbon agroforestry farm analysis system. It is an analysis and certification of the properties of factors in a low-carbon organic agroforestry system such as soil, water, and biological fertilizer in the innovation system. The certificate will be issued by the network agency in the QAR project, which is a collaboration between the Researchers Association of Researchers of Thailand and Central Lab Thailand.

Table 1. Planting zone system of Low carbon agroforestry farm

Zones of HAF Farm	Types of free organic vegetables	Amount (100 g/bag)
Zone: HAF Veggies and Compost	Holy basil	81
	Basil	30
	Peppermint	18
	Lemon grass	32
Zone: HAF Climber	Butterfly pea flower	55
	Cucumber	70
	Bitter gourd	14
Zone: HAF Fruits	Lime	39
	Roselle	10
	Papaya	16
	Mulberry	18
Zone: HAF Herbs	Kariyat	60
	Aloe vera	43
	Stevia	16
Zone: HAF Sprouts	Thai Rice	40
	Wheatgrass	10
	Sunflower	20
Total		572

4. Community participation activities related to low-carbon agroforestry farm innovations according to the Civilized Planet guidelines and sustainable goals following the 5P principles in residential condominium communities, Nong Prue Subdistrict Area, Bang Lamung District, Chonburi Province (Table 2).

Public relations creates awareness and participation in activities of innovative low-carbon agroforestry farms in residential condominium communities. During October 2022-October 2023, there are guidelines for creating awareness for participation in innovation activities, including presentations through the annual general meeting for community members. Presentation through

Table 2. Guidelines promoting participation in activities of Low carbon agroforestry farm

Guidelines promoting participation	Amount (Times)
Presentation through the annual general meeting for community members.	1
Presentation through the administration of the condominium juristic person for the operating staff of the condominium community.	12
Public relations to create participation through Line OA.	12
Public relations on the boards in elevators in every building.	5
Public relations on the board at the entrance to every building.	5
Public relations through participation activities for members interested in and participating in low carbon agroforestry farm innovation activities.	5
Public relations in other channels such as giving souvenirs together.	5
Total	45

Table 3. Relationship activities that use innovative low-carbon agroforestry farms to create participation among condominium community members.

Relationship activities	Amount (Times)
Activity in giving free vegetables to community members when paying utility bills and annual common fees with the Condominium Juristic Person Office.	50
Activities to participate in growing organic vegetables that are safe and healthy.	10
Activities to participate in using food scraps or wet waste to produce biofertilizer for use in Innovative low-carbon agroforestry farms.	3
Activities to participate in planting seeds and trees in an innovative low-carbon agroforestry farm.	6
Activities for renting plants in planting trays, 50 baht per month, rent 1 tray, pre-order 1 tray.	20

the administration of the condominium juristic person for the operating staff of the condominium community (Figure 8-9).

Public relations to create participation through Line OA. Public relations on boards in elevators in every building. Public relations on the board at the entrance to every building. Public relations through participation activities for members who are interested in and participating in the activities of Innovative low-carbon agroforestry farms and public relations in other channels, such as giving souvenirs using products from innovative low-carbon agroforestry farms (Table 3).

Table 3. (Continued)

Relationship activities	Amount (Times)
Community relations activities, such as Songkran activities, use of butterfly pea flower products from an innovative low-carbon agroforestry farm for making desserts and free drinks given to community members and activities to grow organic rice in the planting plots of an innovative low-carbon agroforestry farm.	5
Total	94



Figure 8. Activity in giving free vegetables for community members



Figure 9. Relationship activities of community participation in the farms

5. Benefits of low-carbon agroforestry farm innovation according to the Noble Way of Sustainable Goals following the 5P principles in residential condominium communities, etc.

- (1) Physical health. The products of the innovation are safe and healthy food because they are grown using an organic system especially the young seedlings grow quickly and have a high nutritional content.
- (2) Psychologically, the green area of innovation is a space to relax, refresh, feel proud, and realize the value own abilities, having a positive view of yourself.
- (3) Social aspect: Innovation connects with community relations activities to create unity among community members and innovative learning through the learning center “Organic agroforestry reduces carbon (Learning Center on Low Carbon Micro Farm)” to

- encourage community members to participate in proposing creative ideas to further develop innovations.
- (4) Mentally and intellectually, innovation causes generous sharing through a sustainable green sharing system, meaning community members can collect free, unlimited products from innovation and members can donate seeds and plants to grow seeds continuously and sustainably in the innovation area.
- (5) Economic aspect: promoting careers and supplementing income for community members and the center of the community including having a network of enterprises or organizations involved in creating demand and supply. Community members can rent plants to grow seedlings in the zone: HAF Sprouts (Zone: HAF Sprouts). The rent for planting and selling the seeds is the income for the central unit which is the community’s condominium juristic person. Community members

rent crops to supplement their income by registering to resell products such as young rice leaves to projects in the innovation demand network, such as the i-OP World project, in the case of using organic seeds from the supply network which are farmers who grow organic rice that have been certified by the Rice Department to increase income for Thai farmers.

(6) Environmental aspect promoting the environment in carbon absorption with a new organic agroforestry planting system and promoting participation in natural resource conservation in terms of biodiversity of plant species, soil, and water conservation.

Conclusion

1. Development of the Civilized Planet prototype based on Buddhist principles for environmental management systems for sustainability in a case study of innovative low-carbon agroforestry farm, according to the Noble Way of Sustainability following the 5P principles in a residential condominium community in Nong Prue Subdistrict Area, Bang Lamung District, Chonburi Province, the innovation aims to promote the environment in the resource dimension, environmental innovative technology dimension, dimension of waste and pollution and human and social dimensions. The innovation focuses on being a source of carbon recovery using a new type of organic agroforestry planting system.

2. Low-carbon agroforestry farm innovation has a characteristic pattern of low-carbon agroforestry farm innovation which has a unique characteristic of low-carbon agroforestry farm innovation, namely the structure of the system of 5 planting zones and the learning center "Organic agroforestry reduces carbon" including a sustainable green sharing system and a system for renting young trees as well as a low-carbon agroforestry farm analysis system.

3. Innovation in low-carbon agroforestry farms. There is management and driving of innovation in low-carbon agroforestry farms for the management structure of the innovation and the operational steps of innovation.

4. Specific components of low carbon agroforestry farm innovation. The structure of the innovation growing zone system is divided into 5 zones as, Zone: HAF Hole or Vegetables and Biofertilizer, Zone: HAF Climber plants, Zone: HAF Fruits, Zone: HAF Herbs, Zone: HAF Sprouts. And Learning Center "Organic agroforestry low carbon" to promote and disseminate results to communities and interested parties. A sustainable green sharing system means that community members can collect unlimited products for free in a self-sufficient manner from innovation and members can donate seeds and plants to grow seeds continuously and sustainably in the innovation area, Planting rental system and Low carbon agroforestry farm analysis system

5. Innovation in low-carbon agroforestry farms: There are community participation activities related to innovative low-carbon agroforestry farms according to the Civilized Planet guidelines according to the sustainable goals following the 5P principles in residential condominium communities at Nong Prue Subdistrict, Bang Lamung District, Chonburi Province.

6. Low-carbon agroforestry farm innovation is beneficial following the Civilized Planet in the Noble Way of Sustainable Goals according to the 5P principles in residential condominium communities in physical health, mental health, social, intellectual, economic, and environmental.

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