Summary Report

Urban Agriculture/City Farms and Socio-ecological Rehabilitation in Urban Areas

December 20-21, 2016

Organized by Social Research Institute, Chulalongkorn University

Supported by Chula Global Network

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1. Project rationale:

When "agriculture" is mentioned, we usually think about rice fields, fruit gardens, livestock grazing areas, or aquaculture ponds in rural areas. Cities actually have potential for agricultural production, not only as small backyard gardens in private houses, but also as city farms with several plots of ground, vertical gardens, and planting pots. Thailand is situated in tropical area with good arable soil so farming can be done all year round, and there is no need for additional structure like green houses. Up to the present, the Government and Policy Sectors do not have a concrete plan for urban agricultural promotion. In the eyes of the public, "Cities" and "Agriculture" lie in different domains.

Urban infrastructure system is generally driven by technology dependent of energy and other natural resources. Nevertheless, city people are rarely aware of wastefulness of urban lifestyle, including linkage with rural resources and production. Urban agriculture contributes to some level of self-reliance in terms of domestic agricultural food production for urban households. Small-scale urban agriculture focuses on diverse plants and vegetables, so it is usually free of chemical fertilizer and pesticide. Working outdoor with soil and plants help nourish appreciation of nature and natural resources. Community gardening plots creates social interactions and relations and often expands into network for sharing agricultural products as well as knowledge and experiences. Production and consumption of fresh vegetables and other produces leads to a healthier life. In all, urban agriculture cultivates more self-sufficiency and moderation.

The movement on urban agriculture and city farms in Thailand has been initiated about 10 years ago and started to expand under City Farms Project run by Sustainable Agriculture Foundation (Thailand) together with its associated partners like Center of Media for Development Foundation, City Farms Training Center, including individuals and communities interested in urban agriculture. In the past 10 years, there are projects and activities in various communities like creating the prototype of agriculture linking city farms and food security, promoting city farms for curing or health rehabilitation, setting up information center for city farms, organizing activities for learning, study trips, producing media and campaigning materials, etc.

Those who engage in city farms put the emphasis on environmental dimension of urban development, the re-use of empty and deserted plots of land, social relations, healthy food, etc. Therefore, urban agriculture and city farms are not only growing vegetables for consumption, but also nurturing awareness on urban ecological importance, natural resources conservation, the importance of recycling, nurturing social relations, and increasing self-reliance.

Urban agriculture becomes significant as a concept in contemporary urban development. It is an integrating concept that brings in urban planning, land use planning, waste management, energy management, landscape development, greening of cityscape, urban metabolism, urban sociology, food production and distribution, health and well-being, etc.

Different areas in world's cities now have agricultural plots and pots in the yards, terraces, verandahs, rooftops, different corners in the buildings, including deserted parts and empty land in the cities. Many city planners and administrators already integrate the idea of urban agriculture

into city planning, policies and programs. Nowadays, Bangkok has urban agriculture in the forms of city farms, backyard gardens, vertical gardens, plant pots in condominiums, apartments and offices, on empty land under the expressway. There are learning centers and demonstration plots, innovation centers for new planting technology, recreation centers focusing on nature-based and agricultural activities.

Project objectives:

1) To promote academic discussions and exchanges of ideas on urban agriculture under the theme of "Urban Agriculture/City Farms and Socio-ecological Rehabilitation in Urban Areas". Discussions will focus on foreign examples and Thai experiences, especially from the city farms visited on the first day.

2) To link between the principle of sufficiency economy and urban development through the idea of urban agriculture/city farms.

3) To promote a dialogue among various disciplines on the theme of urban agriculture, principle of sufficiency economy, urban development, and socio-ecological rehabilitation in urban areas.

Description of activities:

The first day (December 20) was a field visit to 3 city farms to learn about urban agricultural initiative, farm development, activities, lessons learned and other relevant urban issues. The group had lunch at Prince Veggie House where the meal was made from fresh farm produce.

The second day (December 21) was a forum to exchange knowledge and experiences about "Urban Agriculture/City Farms and Socio-ecological Rehabilitation in Urban Areas."

Participants:

Participants were academic researchers, lecturers and students from the above mentioned universities and interested individuals. The fieldtrip was attended by 20 participants, and the forum had 28 participants altogether. Presentations and discussions were conducted in English with Thai simultaneous translation. The admission was free of charge.

2. Summary of the fieldtrip:

The participants took 2 vans to travel to Huay Kwang, Lad Phrao and Bangkhen to observe good practices in urban agriculture. The sites were selected to represent farming in different contexts – **First one** being a roof-top garden in a shop-house modified to serve as Nursery on the ground floor; the upper floors are used to store agricultural equipment, to prepare soil and natural fertilizer, and there is an empty space served as meeting corner. The roof top is used as vegetable garden. **Second one** is a private house where the yard is filled with raised plots of vegetable plants. At the back of the house there are large pots of lime trees and other edible plaints. **Third one** is Kasetsart University campus where several roof-tops and empty plots on the ground have been turned to productive vegetable farms.

Roof-top Garden at Rangsee Witthaya Private Nursery, Huay Kwang District.

Khru Usa runs a small Nursery on the ground floor of her shop-house in busy Huay Kwang District. She loves homecooking and because she is a vegetarian who became disappointed with vegetable quality in urban markets, she started urban farming experiment by herself. Having practically no knowledge about farming, she learned from books, websites, and other sources. She became disappointed again as those sources are for farming with soil on the ground and not for concrete roof-top farming.

Pots and trays used for roof-top farming,
and soil/liquid fertilizer that is prepared on the upper floor.

Eventually, Khru Usa experimented and learned on her own, from allocating appropriate space and pots for different kinds of plants to balancing the weight of the plants to prevent weight pressure on building structure. As a result, her 90 squaremeter roof top has turned into green edible garden and relaxing outdoor space and other family function.

Some plants grow better with hanging pots, and rice husk is used to retain soil moisture.
Parts of the floor are used for different purposes.

There are other benefits from doing urban gardening, apart from family food security, waste management is easier because bio waste will be used to make fertilizer. Herbal soap, tea, candle and luffa are some of the products and by-products from her farm. Having green area also attracts birds and insects, some of which disturb the plants, but Khru Usa uses natural means to deter pests and wrap insect-proof bags around her fruits. She also communicates with the plants and it seems that they also listen to her.



Bio waste is managed wisely, turning into fertilizer to increase soil quality, empty eggshells are used to grow seedlings.


Roof-top garden becomes the family space to relax and enjoy the day. Watering the plants becomes a good exercise for everyone!

Lesssons learned and knowledge gained from roof-top farming has been documented and put on the website. Urban Farming Club brings people to learn and train at Khru Usa's place. Therefore, this has changed from private shop-house to a place of sharing among the like-minded.

Home of the Veggie Prince or Khun Nakorn Limpacuptathavon, Lad Prao District

The second visit was to the Home of the Veggie Prince at Lad Prao 71. The yard here has been tranformed into edible gardens stressing on local vegetables that are easy to grow all year round and easy to take care like Ivy Gourd and Ceylon Spinach. The secret to productive garden is soil quality which should be regularly adjusted by adding nutrients from natural fertilizers. Apart from vegetables, he also raises 10 chickens for eggs.


Khun Nakorn took the participants to see various edible plants in his yard. Recycled bottles are used instead of clay pots.

Veggie Prince received an inspiration from his lecturer at Thammasat University over 10 years ago, and his training experience in Austria also contributed to his determination to run an urban farm. Although farming population in Austria is quite low, they have received continuous support from the government. Urban agriculture also links with the issues of waste management, spatial use, local fresh markets, and consumers' health. Eventually Veggie Prince decided to make a living through urban farming.

After walking around the yeard and asking questions about farming techniques, the participants had lunch made by Heart Core Organic Group which is a part of Veggie Prince's network. This network focuses on alternative lifestyle based on sustainable agriculture. Khun Nuengnoi, our lunch caterer told the story behind this newly-adopted lifestyle. Her son had a brain tumor and had to depend on several kinds of medicine. The doctor said the medicine will definitely affects the functions of his liver, so Khun Nuengnoi started to search for natural ways to improve her son's health. Now as her son is better and less dependent on medicine, her family develops natural food catering business.


Nature-oriented lifestyle is not only growing vegetables but balancing physical and spiritual health.

Veggie Prince farm also welcomes apprentices and Khun Natkanang, the current apprentice, talked about his experience here. The work includes watering plants, tending seedlings, improving soil, preparing vegetables for the market and selling produce from the farm together with other members from Heart Core Organic Group, all of these have particular details to learn and practice.

Roof-top Gardens and Ground Edible Garden at Faculty of Architecture and Agricultural Extension Office, Kasetsart University, Bangkhen Campus

Early afternoon was spent at Kasetsart University campus. Urban gardens are scattered around different units and faculties. With time limitation, the participants only visited roof-top gardens of Faculty of Architecture where Associate Professor Pasinee Sunakorn showed plots of different vegetables, rice, and even banana trees. Kasetsart University has a vision for turning the campus into green edible area.

Associate Professor Pasinee showed vegetable plots to the participants, and later a small discussion session was organized indoor.

Research projects on the theme of urban agriculture have been conducted and the needs of food shops and consumers have been assessed. There is also an attempt to link up "producers", "users" and "consumers". Urban farming on campus is possible due to interdisciplinary cooperation like innovation on farming patches, clay blocks for vertical gardening, watering system from gray water, etc. In terms of staffing, maids and cleaning ladies volunteer to look after the plants and they are able to take some vegetable for homecooking and for sale in the faculty. After visiting Kasetsart University, the participants headed back to CUSRI in the evening.

Roof-top gardening in one of the unit at Kasetsart University

3. Summary of the forum:

Welcome Remarks and Introduction to the Forum


After welcome remarks by Associate Professor Dr. Chantana Wungaeo, CUSRI Deputy Director, then Dr. Narumon Arunotai introduced the forum which has been organized as an annual event focusing on urban ecology. Last year's theme was on urban green and the participants took a fieldtrip to Bang Kachao, a large green reserve in Samut Prakan. This year's theme is on urban agriculture as it is becoming much recognized and practiced in Bangkok. Urban agriculture also serves as a concept that link several disciplines together and create more positive actions like community participation and shifting to more healthy habits. In this year's forum, there are 6 presentations and the synopsis is as follow:

"Urban Gardening - as stabilizing factor for urban societies - Austrian examples and international perspectives" By Professor Dr. Jürgen Breuste, Urban and Landscape Ecology, IALE Centre for Landscape Research (CeLaRe), Department of Geography/Geology, University Salzburg, AUSTRIA

Urban gardening in Austria means more than just using roof-tops, school yards, hospital gardens for farming and making products out of farm produce. It is linked with physical health, mental health, happiness, family, relaxation, and spending time outdoor in natural environment. In Austria, urban farming is not linked with poverty alleviation like in Thailand, nevertheless, people can be

attached to their urban garden and spiritual link through years of working on their garden may be disrupted if they have to stop their farming or if the land is taken away. Whether it is Thailand or Austria, one thing in common is vision, "green" policy, and political will of urban managers are very important to realize successful urban farming move.

"Growing vegetables, growing cities, growing food care, growing social ties: some thoughts from 6 years experiences in city farming" by Khun Supa Yaimuang, City Farms Project, Sustainable Agriculture Foundation

City Farms Project under Sustainable Agriculture Foundation has been continuing for 6 years. Urban farming is not only agricultural production, but also related to quality of life in urban ecology, food distribution and sharing. Human does not depend on economics alone but food and environment is very important. Urban encroachment on suburban agricultural land and productive fruit orchard keeps on increasing. It is found that the cost of food transportation rises 7.5 percent with every added 100 kilometer distance from food sources. Food security for poor communities are important and the Project works with Slum Network, Homeless Groups, etc. Urban gardens thus serve as safe and clean food sources, recreation and learning space especially for children. It can also decreases urban vulnerabilities in climate change and in food crisis in the event of urban disaster like flood.

"Urban agriculture from the point of view of urban biodiversity" by Khun Petch Manopawitr, International Union for Conservation of Nature (IUCN)

One area of IUCN work is nature-based solutions. This does not necessarily mean nature preservation, but wise use is important. Thailand has great biodiversity, but we are losing it, like Schomburgk's deer which was found only Thailand but now became extinct. Biodiversity contributes significantly to human quality of life. Urban green area helps reduce the effect of urban heat island. Several researches indicate that being outdoor among the nature is good for the health, and in Japan there is a scheduled practice called "forest bath." Urban farming is not only good for exposing to the nature, but also good for social cohesion as urbanites have little opportunity for common activities. The government should support this green movement through different mechanisms including providing positive subsidies and infrastructure for urban farming and local food network. As for future sustainability, it is important to integrate this with other urban plans and scale up from small plots to larger network and linking this with food production and distribution system.

"Development of Edible Green Landscape in Kasetsart University Bangkhen Campus" By Asst. Prof. Dr. M.L.Vudipong Davivongs, Head of the Department of Landscape Architecture Faculty of Architecture Kasetsart University

Kasetsart University uses the concepts of green infrastructure and ecological services to plan for green campus since the University is already an urban forest in the area. There is a research to identify guidelines to create urban agriculture in university campus. Together with Associate Professor Pasinee Sunakorn and Dr.Sigit Arifwidodo, the team surveyed unused space around the university, explored agricultural techniques, and started a pilot project. Lessons learned are extracted from these experimental plots, then a

manual on urban farming is written and published. Within the framework of an educational institute, seminars, training, classes have been developed on the theme of urban agriculture. Next step was surveys on vegetable consumption on campus, mainly in different canteens and later linking up campus farms with these suppliers and consumers. To conclude, urban farming by an institution/organization is not easy as there are relevant laws and regulations that one has to follow especially in terms of infrastructure care. In addition, farming requires regular tending and care, and busy urban schedule and workload makes it difficult for students or ajarns to have full contribution.

"Food regime and food democracy seen through the case of city farms" By Khun Pakorn Lertsathienchai, CUSRI researcher and editor of recently released title, "Food Regime"

The concept of food regime by Phillippe McMichael covers 4 dimensions of economics, society, technology, and ecology. At present, economic dimension dominates societal thinking resulting in large corporation taking over capital accumulation and using biophysical override, for example, using chemical fertilizers and genetically modifying technology are used to increase production and decrease cost, and this is followed by value override. As a result, societies are going through "de-peasantization" phase and farmers are losing their land and livelihoods. Science and technology also alters food and nutrition and reduces food value to calories and essential ingredients. The book uses the term "regime" to link modes of thinking with social mechanisms about food. The "regime" controls food cycle and flow, and cuts off the visibility of production and consumption link. Our yesterday fieldtrip introduced us to the new process of "re-peasantization" and the returning to the world beyond pure economic reasoning. Urban farming brings inspiration into a new thinking about quality of life, learning and education, and social growth.

"Do it Yourself—DIY as a related urban development concept promoting traditional Thai cultivation practices" by Assoc. Prof. Dr. Suwattana Thadaniti, CUSRI Advisor

Bangkok urban sprawl is encroaching on agricultural area. The only way to protect agricultural area is to entrust it with farmers. The research project provides a choice for urbanites to have farming experiences and exposure to nature through the link with green area farming families, like in Bang Kachao area. Agreement should be made between local farmers and urban families. Having regular cash compensation from this "Do-It-Yourself" program will enable farmers to survive and increase their ability to protect their farmland and livelihood. Urban families will also have a chance to have fresh and clean produce which they contribute in terms of money and labor.

Conclusion

Although urban farming may not be able to feed the whole city, the gradual expansion of the Project during the past 6 years results in 154 farming areas of almost 30,000 square kilometers, with over 5,000 people adopting and practicing some types of urban farming. In the first 2-3 years of practicing urban farming, the farms provide, on average, only 30 percent of total vegetable diet for the growers, but as they continue with the practice, then this can increase to 45-50 percent or even 80-90 percent for some families. There is a lot of room (physically and socially) for expansion.

Urban farming is multi-dimensional. As it is relatively new in Thailand (especially roof-top gardenings), technical parts and local innovations are as important as reviving knowledge about local plants. There is a need, however, to look at the bigger picture. We should stress the importance of urban planning, integrating the concept with various aspects of urban development, promoting interdisciplinary discussion and cooperation about urban farming and urban ecology/biodiversity, and highlighting the linkages between production-consumption and urban-rural ecology.

Urban farming has a potential to be the "seed" for social change. It promotes social interactions through farming and sharing activities. Farming is an opportunity for collective learning about environment, biodiversity, and the web of food. Slum and homeless groups can increase their food security through urban farming and this enables them to be "dignified" producers. Vacant and "unused" lands can become productive as vegetable farms and serve as social and recreational space for these small communities.

Prof. Dr. Suwattana Thadaniti and the exhibition on "Urban Farming", and the forum attended by students and interested individuals at Sala Prakiew.

Annex A: Schedule

International Forum on
"**Urban Agriculture/City Farms and Socio-ecological Rehabilitation in Urban Areas"**

December 20, 2016	**Field trip to City Farms**
8.00	Meet at CUSRI
8.00 - 12.00	Travel to city farms, talk to farmers and members of city farms regarding urban agriculture, healthy food, food security, social relations, the use of deserted areas, socio-ecological rehabilitation in urban areas, etc. Places to visit are school farm and roof top farm in Huay Kwang and Lad Phrao city farm run by Mr. Prince
12:00 – 13:00	Lunch at Mr. Prince's farm
13.00 – 16.00	Travel to visit green campus at Kasetsart University, Bang Khen.
16.00 - 17.00	Return to CUSRI.

December 21, 2016	**Jacques Amyot Meeting Room, 4th floor, Social Research Institute, Chulalongkorn University**
8.30 – 9.00	Registration
9.00 – 9.15	**Opening remarks** by Assoc. Prof. Dr. Chantana Wungaeo, CUSRI Deputy Director
9.15 – 9.30	**Introduction to the forum** by Dr. Narumon Arunotai, CUSRI Researcher, and the entire program moderated by Assoc. Prof. Dr. Chantana Banpasirichote Wungaeo CUSRI Deputy Director
9.30 – 10.30	**"Urban Gardening - as stabilizing factor for urban societies - Austrian examples and international perspectives"** By Professor Dr. Jürgen Breuste, Urban and Landscape Ecology, IALE Centre for Landscape Research (CeLaRe), Department of Geography/Geology, University Salzburg, AUSTRIA
10.30 – 11.15	**"Growing vegetables, growing cities, growing food care, growing social ties: some thoughts from 6 years experiences in city farming"** by Khun Supa Yaimuang, City Farms Project, Sustainable Agriculture Foundation
11.15 – 11.45	**"Urban agriculture from the point of view of urban biodiversity"** By Khun Petch Manopawitr, International Union for Conservation of Nature (IUCN)
11.45 - 12.30	Comments, Qs & As
12.30 – 13.30	Box Lunch
13.30 – 14.00	**"Development of Edible Green Landscape in Kasetsart University Bangkhen Campus"** By Asst. Prof. M.L.Vudipong Davivongs, Ph.D., Head, Department of Landscape Architecture Faculty of Architecture Kasetsart University
14.00 – 14.30	**"Food regime and food democracy seen through the case of city farms"** By

	Khun Pakorn Lertsathienchai, CUSRI researcher and editor of recently release title, “Food Regime”
14.30 – 15.00	**“Do it Yourself—DIY as a related urban development concept promoting traditional Thai cultivation practices”** by Assoc. Prof. Dr. Suwattana Thadaniti, CUSRI Advisor
15.00 – 15.30	**Remarks from CUSRI research units representatives**
15.30 – 16.00	Comments, Qs & As, and Closing