

วารสารวนศาสตร์ปีที่ ๓ ฉบับที่ ๒

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MANPOWER AND TECHNOLOGICAL CONSTRAINTS IN COMMUNITY

FORESTRY PROJECTS AND PROGRAMMES IN THAILAND^{1/}

การขาดแคลนกำลังเจ้าหน้าที่และเทคโนโลยีใน
โครงการวนศาสตร์ชุมชนในประเทศไทย

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บทคัดย่อ

ประเทศไทยมีปัญหาเกี่ยวกับการป่าไม้เช่นเดียวกับประเทศต่าง ๆ ที่อยู่ในภูมิภาคเอเชียและแปซิฟิก การป่าไม้ในอนาคตควรจะมุ่งพัฒนาไปในด้านวนศาสตร์ชุมชนหรือการป่าไม้เพื่อประชาชนในท้องถิ่นเป็นสำคัญ บทความเรื่องนี้ได้ถ่ายทอดให้เห็นถึงกำลังเจ้าหน้าที่ นักวิชาการ และวิทยาการด้านการป่าไม้ในปัจจุบัน รวมทั้งโครงการพัฒนาการศึกษาด้านวนศาสตร์ชุมชน เช่น การพัฒนาหลักสูตรวนศาสตร์ชุมชนของคณะวนศาสตร์มหาวิทยาลัยเกษตรศาสตร์ และการจัดตั้งศูนย์ฝึกอบรมด้านวนศาสตร์ชุมชนในภูมิภาคเอเชียและแปซิฟิกที่คณะวนศาสตร์ เป็นต้น นอกจากนี้ยังได้เสนอให้ทราบถึงโครงการที่เกี่ยวข้องกับวนศาสตร์ชุมชน เช่น โครงการหมู่บ้านป่าไม้และโครงการพัฒนาแหล่งต้นน้ำลำธารแบบผสมผสานอีกด้วย

ABSTRACT

Thailand faces many common problems relating to her forest lands like many countries in the Asia-Pacific Region. Future forestry programmes should be directed toward the development of community

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forestry or forests for local people. The present state of forestry manpower and technology, community forestry education development programmes including curriculum development in social forestry at Kasetsart University and the establishment of Asia-Pacific Community Forestry Training Center (APCFC) have been reviewed. Some selected community forestry projects in Thailand, the Forest Village Project as well as the Integrated Watershed Development Project were also discussed.

I. Introduction

1. Thailand faces many common problems relating to her forest lands like many countries in the Asia-Pacific Region. Uncontrolled human activities, particularly slash-and-burn agriculture have resulted in the rapid and widespread diminution of once seemingly inexhaustible forest resources. Besides the shortage of wood, the real effects of forest destruction lie in its negative impact on agricultural production by creating, for instance, intermittent floods and erosion. This will add permanent burdens to the national development programmes.
2. In recent times the presence of squatters in the forest land has been accepted as a fact of life. The question is how to solve the problem at hand with least hardship to the people as well as minimizing destruction of the forest resources of the country. Consequently attention is focussed on the need for changes in forest management and training of foresters to fulfill the changed objectives.
3. It was recognized that forestry strategies should be geared to satisfy primarily the local community needs. Attention should also be focussed on such issues as the creation of rural employment and generation of

rural incomes through forest based activities. Future forestry programmes, hence, should be directed toward the development of community forestry or forests for local people.

4. Practice of forestry for local community development or community forestry would require new knowledge and skills and a reorientation of attitudes on the part of foresters and other forest workers. The traditional forestry courses are insufficient to prepare the forester adequately for this new thrust in forestry programmes. Manpower and technologies in community forestry at the moment are extremely important. The new foresters should have a good perception of problems and be skilled in the technologies needed to implement community forestry projects.

II. The Present State of Forestry Manpower and Technology

5. Forestry in Thailand today is increasingly confronted by the effects or rising population pressure. The need for developing the new approaches that integrate the productive, protective and social roles of forest are being accepted and considered very important for local community development.

6. Unfortunately, in the past, professional foresters had been trained in traditional aspects of forestry. Until now, forestry training is mainly in the fields of forest production, protection, conservation and utilization of forest products. The forestry curriculum tended to isolate the foresters from the people instead of training them to deal with rural institutions that need the forest resources to develop their communities.

7. Community forestry is a new agenda in forest management and development. There is still a dearth of foresters available to support fully for any of the community forestry programmes. At present, of course, universities are lacking in facilities to train manpower in community forestry. Formal education in community forestry is urgently needed. Universities should undertake manpower training in community forestry for rural development.

8. Faculty of Forestry at Kasetsart University is the only academic forestry school in Thailand. The academic programme is presented by a total of 60 Faculty staff members, with 5 of them holding B.S. degrees, 29 of them holding M.S. degrees and 26 doctorate degrees from foreign universities (Appendix I).

9. The total student enrolment for courses in the academic year 1984/85 has reached 917 students, with 623 students in B.S. and 294 in M.S. degree includes Environmental Science Programme (Appendix II).

10. A total of 148 students have been graduated from the Faculty in the academic year 1983/84 with 107 students in B.S. and 41 in M.S. degrees (Appendix III).

11. Approximately 2,500 professional foresters have been produced by the Faculty of Forestry since 1936. Unfortunately, no direct community forestry programme have been offered so far. The focus of both undergraduate and graduate programmes has dealt primarily with forest resource management and its utilization especially for commercial and industrial aspects (Appendix IV). However, many courses related to community forestry have been offered in various Departments in the Faculty, for instance, three courses of

agroforestry have been offered in the Department of Silviculture since 1981.

12. While community forestry is still in its infancy, it has been accepted as a concept of great potential in enhancing local community development through the integration of sociology and forestry technologies. Foresters have looked into this new approach as the possible solution to forestry problems. Being an evolving approach in rural development, community forestry still needs two very important support components : education for manpower development and research support for development of technologies.

III. Community Forestry Education Development Programme

13. In recognition of the importance of community forestry and the need for incorporating this particular aspect into the Faculty curriculum, the Faculty of Forestry, Kasetsart University, with the assistance of FAO/SIDA, plans to reorient its curricula to address more effectively the needs of community forestry by introducing the following themes, amongst others, in its course work : rural sociology, extension and communication, community analysis and planning, forest based cottage industries, agroforestry and integrated land use and resource management for rural community development.

14. Attention of the curriculum development, therefore, must be sharply focussed on such issues as : how to train the forestry students to cope with the problems of local community development ; how can the trained foresters play an effective role through forest and/or forest

industry activities in order to create rural employment and generate the rural incomes.

Curriculum Development in Social Forestry
at Kasetsart University

15. The FAO/SIDA assisted project is to be carried out over a two year period during 1984 and 1985. In order to meet the project objectives, a detailed work plan has been prepared at the on set of the project, A familiarization tour for the International Advisor were arranged and visits were made with the Advisor to many forestry projects and rural areas all over the country. Tree sets of national survey have been carried out for determining the actual knowledge and skills needed by graduating foresters.

16. A five-day national workshop for the period of 22-26, October, 1984 has been carried out. The workshop dialogue includes three major themes, namely "Forestry and Rural Development", "Thailand's Experiences in Community Forestry", and "Guidelines for Curriculum Development in Social Forestry", This will includes the presentation of the results from the national surveys. About 30 participants from government and private agencies were participated in the workshop.

17. The general text "An Introduction to Community Forestry" has been prepared as a basic teaching material. Development of lesson plans and more specialized didactical materials have been done following the national surveys

and the national workshop. Presentation and evaluation of the revised curriculum will be made at the second year of the project.

18. To support the development of curriculum in social forestry, and in order to give the forestry students a practical field orientation, the facilities of the Royal Forest Department in the ongoing watershed management project and those of the Forest Industry Organization in their "Forest Villages" and other facilities will be made available. Besides that the Forestry Faculty itself has 5 field camps representing different ecological zones. Most of these camps near the ongoing activities gives the students a practical insight into several aspects of social forestry. This curriculum development project will support directly to the establishment of the Asia Pacific Community Forestry Centre at Kasetsart University in the very near future.

Asia - Pacific Community Forestry Centre (APCFC)

19. The establishment of the Centre will be joint undertaking of Kasetsart University, FINNIDA and Asian Development Bank. This project is intended to assist the countries in the Asia - Pacific Region to overcome the manpower constraint by establishing a formal Asia - Pacific Community Forestry Centre for training and research.

20. As stated in the project proposal, the proposed Centre will (i) collect information on community forestry, with particular emphasis on the Asia-Pacific Region; (ii) train vocational, professional and other levels of participants from the region; (iii) organize seminars and conferences

on community forestry when necessary; (iv) provide technical assistance in social/community forestry; (v) serve as a resource centre for information transfer in the region; (vi) develop linkages with appropriate institutions in Thailand and in other countries, so as to promote research in community forestry for further curriculum development.

21. Details of the training course of the Centre will emphasize the following key areas: (1) Production system of community forestry: the courses will include agroforestry, village woodlots, forest village system as a means to integrate community forestry development, integrated watershed management, multiple product forestry, tree farming and economic aspects of community forestry. (2) Utilization of the products from the production system: the courses will include charcoal production, small-scale wood industries, and other associated forest-based activities. (3) On-the-job training in various aspects of ongoing community forestry in the region: this will enable the participants to acquaint themselves with the field work.

22. The establishment of the Centre will enable the countries in Asia-Pacific Region to train staff in community forestry and related research. The trainees will themselves gain knowledge in this field and be able to carry out the implementation of community forestry projects in their respective countries.

23. The development of curriculum and the establishment of the community forestry training centre at Kasetsart University to train the foresters with knowledges to work for the rural community will be very useful to the country and to the region as well.

IV. Some Selected Community Forestry Projects in Thailand

24. The concept of community forestry in Thailand has been adopted since 1956 when the National Land Allotment Committee set up the policy to provide 20 percent of forest land to serve as a communal forest which is allotted to villagers. Later several activities concerning forestry for rural community development have been carried out such as the Integrated Watershed Management Project in 1965, the Forest Industry Organization (FIO) Forest Village in 1967, the Forest Village run by the Royal Forest Department (RFD) in 1975, the People Voluntary Tree Planting Programme in 1978, the Sor Tor Kor Project (the issuance of land utilization certificate to the villager in the National Forest Reserve to have the right to use but not to own the land) in 1979 and the Village Woodlot Project in 1981. So far the activities are still in the limited extent except those of the Forest Village and Integrated Watershed Management Projects. The pilot project entitled "Development of Diversified Forest Rehabilitation Project, Northeast Thailand" in cooperation with UNDP/FAO has also been carried out since 1981.

FIO Forest Villages

25. FIO has a long tradition of setting up and operating forest villages in various parts of the country and had gained considerable practical experience with community forestry over the years. There are 41 forest villages now run by the FIO.

26. The objectives of the FIO forest village is to resettle the landless people and establish the plantation on sustained yield basis in each forest unit. The modified taungya system has been introduced in the forest village reforestation programme. Each member family is allotted a 10 rai (1.6 ha) plot of land in the reforestation area to raise their crops simultaneously with tree planting and another 1 rai (0.16 ha) in the forest village to live on, building up their own home, and backyard gardening.

27. Besides the agricultural crops as a source of income, labour for forestry work is recruited from the villager to ensure continuity of employment for additional income. FIO will pay as bonus of 1,500 Baht any family who work on clearing land and planting seedling for 3 years over 30 rai (4.8 ha) of land. Additional 1,200 Baht will be paid for their work on the annual allotment of another 1.6 ha.

28. Infrastructure development and social welfare e.g. medical care, school and temple in the forest village are provided by the FIO.

29. The FIO forest village system is considered more effective and cheaper than other systems of reforestation. At the same time, the reforestation establishment helps forest village members to achieve a better standard of living. However, the success of the forest village is very much dependent on the forester in charge of the forest village unit as well as the participation of the beneficiaries.

RFD Forest Villages

30. It was estimated that there are some one million families squatting in the forest area at any given time. If no solution was found soon,

all the forest in the country would be cleared. The Cabinet of Ministers, therefore, on April 29, 1975 directed the RFD to solve the problem through the allocation of land in the degraded national forest reserve all over the country to the farmer under the forest village programme. Until now, 73 out of 100 forest villages as targetted in the National Economic and Social Development Plan have been established.

31. The goals of establishment of forest villages are to rehabilitate national forest reserve and settle down of landless farmers and squatters scattered all over the reserve forest to facilitate government assistances and services.

32. Basic guideline for the resolution specified that the government will provide land for farming 15 rai (2.4 ha) per family. No title will be issued, however, for such land, instead, a user permit will be given. The property is inheritable but non-negotiable. This is to prevent buying up attempt by landlord. Membership in the village is voluntary.

33. In each village, RFD and other government agencies will provide suitable vocational training, irrigation, feeder road, school, health station, agricultural credits, marketing service and housing area.

34. Priority will be given to the village member in the employment opportunity available in the government reforestation operation around the village.

35. After the village is established, it will set up as an agricultural cooperative under the aegis of Cooperatives Promotion Department with right and privileges given as other Cooperatives. RFD will issue a long-term lease of land to such cooperatives as required.

36. It is expected that the programme would help the landless farmer attaining permanent land for housing and farming; stop forest encroachment and rehabilitate degraded forest area; raise earning level of the people in the village through improved agriculture techniques and marketing services; provide cash income from employment in reforestation projects; raise standard of living of the people through health and education services; and raise moral and will of the people to pave way for further development.

37. In practice, only some of the forest villages are active. In some areas the size of the land formerly used by the farmers are larger than the allotted land causing a conflict and making it difficult to persuade the people to join as the members of forest village. Most of the villagers do not understand clearly about the project until the infrastructure were developed. Communication and extension techniques of the forester in charge are considered very important. Participation of people from the beginning is the key to success.

Integrated Watershed Development Projects

38. The problem of hill tribes practising shifting cultivation in the upstream watershed in the North has attracted attention from various agencies. RFD undertakes both watershed rehabilitation as well as promotion of economic well being and community social development simultaneously in order to cope with further watershed destruction.

39. There are about 36 watershed rehabilitation units in the highlands of the northern part of the country which carry out the forest activities to rehabilitate the degraded watershed and to encourage the nomadic hill tribes to settle down by planting trees and permanent agricultural crops. Agroforestry is also promoted for additional income. Introduction of new promising cash crops including coffee, new varieties of peach, apple, cut flowers and other temperate

fruit crops to the upstream watershed dwellers are under experiment to substitute opium poppy cultivation.

40. Infrastructure development, health, education and sanitation programmes and other welfare activities are undertaken by the watershed rehabilitation unit in order to improve their living standards.

41. The lack of basic data on the sociological condition of the tribal people is the main problems encountered. To channel these people into the stream of national development plan, these information gaps must be filled. Experiences in many cases indicated that the cooperation among government agencies is important and should be evolved for the success of the projects.

V. Conclusion and Recommendation

42. In Thailand several field projects on forestry for local community development are underway. The accomplishment of the projects are very much dependent on the ability of foresters in charge of these projects. Participation of the beneficiaries or the people in the local community is extremely important. If people do not participate in the planning and implementation, the community forestry project will not satisfy individual and local needs; if they do not participate in receiving benefits, the project will have no meaning to them.

43. To fulfil the objectives, emphasis should be on the integration of forestry and agriculture, including the continued development of agroforestry systems. Agroforestry is one of the important tools for meeting the basic needs of rural people for fuelwood, fodder and agricultural production.

44. Special attention should also be directed to providing more income to rural people through appropriate forestry or forest-based processing activities.

Besides the basic knowledge in forestry the community forestry courses, therefore, should be directed toward people oriented programmes in order to meet the needs of people and to involve people directly in the activities beneficial to them.

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Appendix I
The Total Number of Faculty Members and Holders
of Different Degrees by Department, Faculty of,
Forestry, Kasetsart University, 1984

Department	Taking			Taking		Total	
	Ph.D.	up	M.S/M.F	up	B.S		
	Ph.D.			M.S.		Number	Percent
Forest Management	7	1	4	0	0	12	20
Forest Products	4	0	7	0	0	11	18
Forest Biology	5	1	4	0	0	10	17
Forest Engineering	1	0	1	3	1	6	10
Silviculture	5	1	4	0	1	11	18
Conservation	4	2	4	0	0	10	17
Total	26	5	24	3	2	60	—
Percent	43	8	41	5	3	—	100

Appendix II
The Enrolment in Faculty of Forestry from 1980 to 1985

Academic Year	First	Second	Third	Fourth	Under-graduate	Graduate*	Total
1980-1981	170	141	140	96	547	169	716
1981-1982	169	170	141	140	620	205	825
1982-1983	178	157	138	124	597	238	835
1983-1984	177	176	141	146	640	256	896
1984-1985	168	169	155	131	623	294	917
Total	862	813	715	637	3,027	1,162	4,189

* Includes Environmental Science Programme.

Appendix III
The Graduate Profile in Faculty of Forestry from 1979-1984

Academic Year	Under graduate	Graduate*	Total
1979-1980	64	21	85
1980-1981	90	30	120
1981-1982	93	46	139
1982-1983	105	46	151
1983-1984	107	41	148
Total	459	184	643

Source : Planning Division and Educational Service Division, Kasetsart University.

*Includes Environmental Science Programme.

Appendix IV
Faculty of Forestry
Bachelor of Science in Forestry
1985
FIRST YEAR

<u>First Semester</u>			<u>Second Semester</u>		
Math 111	Calculus I	4-4-0	Math 112	Calculus	4-4-0
English 111	Foundation English I	3-2-3	English 112	Foundation Engl. II	3-2-3
Chem. 111	General Chemistry	5-4-3	Chem. 221	Organic Chem.	5-4-3
Soc. Sci. 111	Intro. to Forestry	3-3-0	Biol. 111	Princ. of Biology	3-3-0
For. Mgt. 111	Princ. N.R. Conserv.	2-2-0	Biol. 112	Lab in Biology	2-0-6
Conserv. 111	Physical Educ. I	2-2-0	For. Biol. 111	Dendrology	2-1-3
P.E. 111		1-0-2	P.E. 112	Physical Educ. II	1-0-2
		<u>20</u>			<u>20</u>
SUMMER: Conserv. 112			Field Forestry	1	
For. Biol. 112			Field Dendrology I	1	
				<u>2</u>	

SECOND YEAR

First Semester			Second Semester				
Physics	117	Princ. of Physics I	3-2-3	Physics	118	Princ. of Physics II	3-2-3
Bot.	114	Gen. Botany	3-2-3	Zool	113	Gen. Zoology	3-2-3
Econ	181	Intro to Economics	3-3-0	Stat	111	Princ. of Statistics	3-3-0
Phil	112	Gen. Philosophy	3-3-0	Phil	121	Intro. to Logics	3-3-0
For. Prod	111	Anatomy and Ident. Wood	3-2-3	For. Biol		Forest Ecology	2 2-0
For. Eng.	111	Engineering Drawing	2-1-3	For. Eng.	221	Forest Surveying	3-1-6
Silvic.	111	Silvic	2-2-0	Silvic.		Forest Plantation	2-2-0
			<u>19</u>				<u>19</u>

SUMMER:	For Biol	222	Field For. Ecology	1
	For Eng	222	For. Surveying Practices	1
	Silvic	222	Field Silviculture I	1
	For. Mgt	221	Field For. Mensuration	1
				<u>4</u>

MAJOR IN FOREST RESOURCES

THIRD YEAR

For. Mgt.	321	For. Mensuration	2-1-3	For. Mgt.	331	Photogram. and Photo- Interp.	3-2-3
For. Biol.	331	For. Entomology	2-1-3	For. Mgt.	351	For. Resour. Samp. Meth.	2-2-0
Silvic.	311	Silvicultural System	2-2-0	For. Biol.	332	For. Pathology	2-1-3
For. Eng.	331	Gen. For. Engineering	2-2-0	Conserv	331	Intro. Wildlife Mgt.	2-2-0
Conserv.	341	Intro. Outdoor Rec.	2-2-0	For. Eng.	341	Logging	2-2-0
For. Prod.	321	For. Prod. Utiliz.	2-2-0	Conserv.	421	Princ. Watershed Mgt.	3-2-3
Soil	111	Intro. soil Sci.	4-3-3	Elective for Option		2	
Geology	111	Elem. Geology	2-2-0			<u>16</u>	
			<u>18</u>				

SUMMER:	For. Mgt	352	For. Resour. Inventory	1
	For. Biol.	313	Field Dendrology II	1
	Option	Practicum		1
				<u>3</u>

FOUTRH YEAR

First Semester			Second Semester		
For. Mgt. 411	Prin. For. Mgt.	2-2-0	Silvic. 431	For. Protection	2-2-0
For. Mgt. 441	For. Resour, Econ.	2-2-0	Conserv. 471	Pri8c- Land Use	2-1-3
Silvic 451	Prin. Agroforestry	2-2-0	Elective for Option		6
Conserv. 451	Range Science	2-2-0	Free Elective		3
Elective for Pntion		6			13
		14			

Degree Requirement 148 credits; 2.0 GPA.

MAJOR IN FOREST PRODUCTS

THIRD YEAR

For. Prod. 331	Wood Chem.	3-2-3	For. Prod. 332	Pulping and Bleaching	3-2-3
For. Prod. 333	Wood Adhes	3-2-3	For. Prod. 341	Wood Deterioration	3-2-3
For. Prod. 351	Physical Prop. Wood	3-2-3	For. Prod. 372	Wood Seasoning	2-1-3
For. Prod. 352	Mech. Prop. Wood	3-2-3	Elective		9
For. Prod. 371	Wood. Mach. Proc.	3-1-6			17
Elective		3			
		18			

FOURTH YEAR

For. Prod. 451	Struc. Eng. Trop. Wood I	3-2-3	For. Prod. 441	Qual. and Prod.	
For. Prod. 471	Wood Preservation	2-1-3		Control	3-3-0
For. Prod. 472	Plywood and Laminated	3-2-3	For. Prod. 474	Fiberboard and	
				Wood Cement	3-2-3
For. Prod. 473	Particle board	3-2-3	For. Prod. 475	Energ. Tech. from	
For. Prod. 476	Fiber Prep. and			Wood	3-2-3
	Paper Making	3-2-3	Free Elective		3
Elective		3			12
		17			

Degree Requirements 148 credits; 2.0 GPA.