

# memorandum

DATE: March 23, 1983

REPLY TO  
ATTN OF: Ms. Thongkorn Hiranraks, Project Officer, O/ARD

SUBJECT: Project Completion Report, AID Loan No. 493-T-018  
(Sericulture/Settlements Project)

TO: Mr. Robert Halligan, Director

THROUGH: Mr. Jerry J. Wood, Chief, RDA, O/ARD

REF: USAID Order No. 3.12, dated October 18, 1982,  
"Project Completion Report"

## I. Goals and Purposes

The stated goal of the Project is to "increase the annual net cash farm income of 1,500 families in 10 Northeastern settlements by an average of 50% per family in 5 years". It was assumed that: the RTG would continue to stress improvements in rural living standards as a national priority; population increases among the poor would not be greater than family income increases; and the project benefit would be spread among the 1,500 farm families.

The project purpose as stated is to "establish modern sericulture technology among 1,500 farm families in 10 settlements in the Northeastern Thailand". In achieving this purpose, it was assumed that: the target families would be willing to accept the risks involved in adopting modern sericulture technology; there would be a reasonable demand for silk warp yarn; adequate input supplies and adequate trained staff would be available to manage the Project; and short term credit would also be available as and when needed.

The Project Committee concludes that this project, while not yet achieving the targets originally planned in terms of participation, ultimately can meet the basic objective of increasing the incomes of poor farmers in the 10 settlement areas. The average net cash incomes of silkworm rearing settlements in the 10 settlements in 1978 through 1980 were Baht 3,600, Baht 6,124 and Baht 6,382 respectively, equivalent to \$180, \$306 and \$319 respectively. (See Joint Evaluation Report on Thailand Sericulture/Settlements Project, Feb. 20 - April 4, 1981). The RTG is implementing a multi-year plan for continued support of the project based on advances in technology and the institutionalized relationships built up among the implementing agencies during the period of USAID support. Further, AID participation in this project lent discipline to project analysis, planning and implementation that has improved the capability of the RTG to undertake other activities involving transfer of technology and coordination of efforts between RTG agencies.

11. Accomplishments, Actual and Projected

<u>Outputs</u>	By the end of the Project		<u>Percentage of Achievement</u>
	<u>Projected</u>	<u>Actual</u>	
1. Number of central rearing houses (unit)	30	27 <sup>1/</sup>	90%
2. Area of central mulberry plantations (rai)	1,000	1,325 <sup>2/</sup>	132.5%
3. Number of functioning cooperatives (unit)	10	13 <sup>3/</sup>	130.0%
4. Number of farmer old silkworm rearing houses (unit) built	1,500	709	47.3%
5. Area of farmer mulberry plantations (rai)	6,000	3,544	59.1%
6. Fresh Cocoons marketed per year (MT)	311.0	80	25.7%
7. Number of trained sericulture supervisors working for the Project	10	10	100%
8. Number of trained extension workers working with farmers	70	30	42.8%

<sup>1/</sup> Eleven units were built under the RTG budget prior to implementation of the USAID project.

<sup>2/</sup> 635 rai was financed under the RTG budget.

<sup>3/</sup> Since the project was expanded to cover 13 land settlements instead of 10 land settlements in July 1979, as stated in the PIL No. 8, the number of cooperatives was changed accordingly. However, most of the additional settlements did not play active roles in the Sericulture Project.

At the end of the project only 709 project farmers had built old silkworm rearing houses against a planned figure of 1,500. This decrease in participation can be attributed to:

- 1) problems in recruitment of project farmers;
- 2) shortage and non-availability of input supplies;

- 3) shortage of adequate trained staff to:
  - a. demonstrate and promote profitability of silkworm rearing;
  - b. recruit and train able project farmers;
  - c. monitor progress of settlers in establishment of mulberry plots, construction of rearing houses, and securing of adequate amounts and quality of good hatchable silkworm egg;
  - d. supervise rearing of young silkworms in rearing houses;
  - e. provide on-farm follow-up services during the rearing cycle; and
  - f. make timely payments and collect fresh cocoons for shipment to Korat, where the cocoon drying plant is located;
- 4) procedures for selection of project farmers (some were not located on land suitable for use in mulberry production, and a few lacked assets necessary to qualify for short term credit.)

The Project Committee agrees with the conclusion of the joint evaluation team which worked between February 24 and April 4, 1981 that many of the project objectives proved more difficult to accomplish than expected. To quote: "These start-up and other delays have led to a 3 year delay in implementation. Consequently the Project will be unable to achieve its purpose and goal within the specified 5 year period. It can, however, hope to achieve the goals and purposes specified if the corrective measures proposed by the evaluation team are implemented."

Accordingly, the Mission accepted the evaluation team's recommendations to redefine the project goal and purpose: i.e., to increase the annual/net cash (from modern sericulture production) farm income of only 1,000 poor farm families instead of 1,500 poor families in 13 Northeast Settlements over a period of 6 years instead of 5 years.

Steps were taken to insure improvements in the following areas during the one year extension:

- a) management and administration (including increased staffing and improved project implementation review and monitoring and evaluation at the settlement level);
- b) training;
- c) credit and input supply; and
- d) technical aspects of mulberry production, silkworm rearing, cultivation practices and demonstration and promotion.

### III. Summarized Project History

The project design period was lengthy due to difficulties in locating technical expertise from the U.S. The Project Identification Document (PID) was submitted to AID/W in December, 1974, followed by the submission of Project Review Paper (PRP) in January, 1975, and the Project Paper (PP) in March, 1976. Economists, John Mellor and Una Lele assisted in the preparation of the PRP and the Robert R. Nathan Associates, Inc. team assisted in preparation of the PP. Finally, the loan was signed on September 8, 1976.

Project design anticipated a set of organizational roles and called for plans from the implementing agencies concerned based on those roles. These plans, that focused on cooperative development, silkworm egg production, training of farmers, supervisors and extension workers, and credit to the cooperatives and participating farmers, were in several cases not realistic or implementable. During the 1981 evaluation, it was found that:

1. Although the original plan stipulated that the sericulture extension workers operating under PWD will be primarily concerned with silkworm rearing technology and the extension agents under the Department of Agricultural Extension (DOAE) would assist participating farmers with their individual plantations, in fact the aforementioned plan has not materialized. The project extension agents play other roles as well, such as acting the Deputy Superintendents' role, and the DOAE has not provided any assistance. (In fact, it was not requested to do so.)

2. The project design required that the Sericulture Division be responsible for providing enough hybrid silkworm eggs for the project. In fact, during project implementation, the Sericulture Division has had difficulty in meeting the requirements of good hatchable quality eggs required by the settlements. Furthermore, there is a monitoring problem in matching supply and demand of eggs required for the production of cocoons. The PWD's policy in supplying silkworm eggs was changed many times between use of domestic eggs and imported eggs. In making these changes, no effort was made to determine the readiness of the farmers.

3. The project planned to hire a management consultant to assist the project manager in coordination and analysis of the management aspects of operations and to make other recommendations for the project manager's use. During the life of the project no action was taken to hire such a consultant.

These problems were minimized as a result of the implementation of the recommendations given by the 1981 joint evaluation team.

The recently completed study by Dr. Chavivan Prachuabmoh, Anthropologist, on attitudinal changes of project members toward rearing silkworm during the one year extension concludes with positive

indications for the project. The number of those who wish to take silkworm rearing as a main occupation increased by 26.2%. The project farmers are being motivated and start to utilize their labor for silkworm rearing activity. It was predicted that the number of successful members would increase in the coming year if no serious technical problems are encountered. With the success of improved sericulture production, which is already taking place at Kham Soi Land Settlement, and the development of institutional facilities, there is good potential for the project.

#### IV. Beneficiaries, Direct and In-Direct

At the end of the project, 544 farm families have directly benefited by earning net cash income of about \$237,804 from selling of 80 MT of fresh cocoons. The average net cash income per family per year is \$437\* which is lower than the goal of \$550 that was projected at the time of project design. However, the increase of net cash income is over 200 per cent of the income generated in the second year of the project (1978). By utilizing the same amount of land, 4-6 rai, for kenaf or cassava production, a farmer will receive an average return of about \$110 to \$125 per year. Therefore, it would appear that sericulture has become an attractive comparative option for the farmer.

With the positive results of the redesign program during the one year of project extension, it is expected that all of the original 709 farmers who built the old silkworm rearing houses will become active project farmers. This will increase the fresh cocoon production from 80 MT per year in 1982/83 to 104 MT in 1983/84 for a total net cash income of \$309,287.

This project has the potential for replicability as other farmers become aware of the higher income derived from sericulture production, and even less successful farmers in the project will benefit. This has been taking place at Kham Soi Land Settlement where 172 farmers earned about one third of their total income from activities generated by the project. It has been shown that the technology can be transferred successfully and that non-project farmers will also take advantage of such sericulture practices.

The indirect benefits will be in the form of employment generation, reduction of migration rates, and improved security in the sensitive areas of the Northeast.

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\* Net cash income is about 76% of the gross cash income. Average price of one kg. of fresh cocoon is Baht 90.

V. Lessons Learned

1. Sericulture can benefit the poor, but probably not the very poorest. The successful farmers were those who used:
  - a) More than 4 rai of land for mulberry production -- this much was needed to feed the hybrid silkworm in order to produce sufficient revenue for the rearer from cocoon sales;
  - b) A higher level of investment in terms of:
    - Making available labor for training (during peak labor requirements for production of other crops);
    - Investment in manure, fertilizer, insecticides, pesticide and supplies including repair and maintenance of facilities.

These are the settlers who are also considered better risks for loans and it is such settlers that will be able to make up any gaps between investment requirements and the amount of loans made available by BAAC.

2. Project planners, when dealing with the transfer of modern technologies like in the Sericulture/Settlements Project, need to be more realistic in their expectations regarding production targets; availability of adequate trained staff; effective coordination between agencies; availability of surplus labor; ability of project to recruit required number of able settlers in the time specified. Project planners also should be experienced in estimating what is most likely to happen (rather than simply setting targets in isolation) and provide sufficient time for evaluation of initiatives such as:
  - Reliance of the project design on the use of cooperatives as a vehicle for managing cocoon production and marketing;
  - Obtaining the required numbers of adequately trained supervisors and extension agents;
  - Obtaining assured supplies of inputs such as good quality hatchable silkworm eggs and mulberry production;
  - Attracting able potential applicants or recruits for training as silkworm producers;
  - Training project staff to screen potential applicants to be recommended for credit supply;
  - Establishment of effective coordination between agencies and the need for taking account of the local institutional, cultural and political environments.

All of these have directly affected the manner and speed with which the Project has been implemented.

3. The Public Welfare Department (PWD) staff should be trained to identify possible project farmers/applicants from among settlers with the following criteria:
  - At least two surplus and responsible members of a family instead of one surplus laborer as stated in the Project Paper to be available to work on sericulture.
  - At least 4-6 rai of land available for mulberry cultivation instead of only 4 rai as stated in the Project Paper.
  - Some existing assets that can be identified so as to ensure availability of short term capital for purchase of inputs and other supplies.
4. It is absolutely imperative to increase probabilities for farmer repayment of loans obtained from Development Banks such as BAAC in order to ensure continued credit availability for good projects.
5. It is essential for PWD staff to effectively coordinate and monitor the inputs of all other agencies and organizations in order for the Project to achieve its objectives.

#### VI. Review of Warranties and Project Covenants

All of the covenants listed below have been met:

1.a The Borrower shall cause the executing agencies to carry out the Project with due diligence and efficiency in conformity with sound financial, administrative, and planning practices, and, except as the parties may otherwise agree in writing, in conformity with the Project Description and in accordance with the implementation of the arrangements set forth in part IV.A. of Project Paper dated March 26, 1976, and Annex G, H and I thereto, and such other plans and procedures as may hereafter be agreed upon by the parties pursuant to this Loan Agreement.

b. The Borrower shall make available to the executing agencies on a timely basis Thai currency as necessary for the implementation and completion of the Project.

c. The Borrower shall ensure that an effective program of operation, maintenance and repair, including necessary funding therefore, is provided for all facilities and equipment funded under the Loan.

#### 2. Funds and Resources to Be Provided by Borrower.

The Borrower shall provide promptly as needed all funds, in addition to the Loan, and all other resources required for the punctual and effective carrying out of the Project as described Annex I of the Loan Agreement.

3. Annual Planning, Review and Evaluation of Progress.

The Borrower and A.I.D. shall cooperate fully to assure that the purposes of the Loan will be accomplished. To this end, unless A.I.D. otherwise agrees in writing, representatives of A.I.D. and the Borrower shall meet at least once each year to review and evaluate the progress of the Project, its operations, and other matters relating to this Loan Agreement and the Project.

VII. Post-Disbursement Reporting and Residual Monitoring Requirements

The disbursement termination date was extended for 6 months after the Project Activity Completion Date (PACD) in order to allow adequate time for the PWD to finish all disbursements. No post-disbursement reports are required or recommended.

During the one year project extension, the PWD has improved its monitoring ability and efficiency in implementation of the project, thereby requiring less supervision by the USAID Project Officer. Direct residual monitoring by USAID will not be necessary. However, the Royal Thai Government (RTG) has extended its Sericulture Project for another 3 years after the project activity completion date, through FY 1985 under its own financial support. The USAID Project Officer will be appointed as a member of the Advisory Committee of the carryover RTG project.

VIII. Summary Financial Statement

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	Loan			Contribution		
	PWD	BAAC	Total	PWD	BAAC	Total
a) <u>Obligation</u>						
<u>In the Loan Agreement</u>	1,300,000	1,300,000	2,600,000	1,975,500	1,466,500	3,442,000
Amended in PIL No. 5	1,365,310	1,234,690	2,600,000	2,040,810	1,401,190	3,442,000
Amended in PIL No. 24 <sup>1/</sup>	1,229,322	555,678	1,785,000	2,040,810	1,401,190	3,442,000
b) <u>Actual Expenditure</u>	1,200,382	546,071	1,746,453	2,128,769	226,287	2,355,056
c) <u>Balance of obligation over actual expenditure</u> <sup>2/</sup>	28,940	9,607	38,547	(-87,959)	1,174,903	1,086,944
d) <u>Percentage of actual expenditure to obligation</u>	97.65%	98.27%	97.84%	104.31%	16.15%	68.42%

<sup>1/</sup> The amount of \$ 815,000 was deobligated in September, 1981.

<sup>2/</sup> The amount of \$ 38,547 will be deobligated in March, 1983.

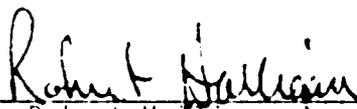
The loan was deobligated in an amount of \$ 815,000 in September 1981; an additional \$ 38,547 was deobligated in March 1983. All of the basic infrastructure, such as road improvement and the construction of central young silkworm rearing houses, supplemental water supply and cocoon drying plant, are in place. Most of the deobligation was from a reduction in anticipated capital flows to BAAC due to the reduced level of farmer participation and the fact that no funds were released to the cooperatives.

The percentages of actual expenditures to obligations are illustrated in the above table. The PWD contribution to the project exceeded the planned amount (as specified in the Loan Agreement and subsequent PIL's) by the use of special PWD funds. In contrast, the BAAC contribution ratio to the loan financing was only 41% because of the lack of loans during the first 3 years of the project. USAID issued PIL No. 10 to increase the BAAC contribution ratio from zero in FY 1979 to 63% and 45% in FY 1980 and FY 1981, respectively, and 100% during the year of extension in order to catch up with the loan funds. However, these targets were not met due to the low rate of participating farmers.

IX. Recommendation

Authority to implement this loan was delegated to the Director, USAID/Thailand. Under the authority delegated, the Project Committee recommends that all active monitoring of this loan be terminated in accordance with conditions outlined in Section VII, Post-Disbursement Reporting and Residual Monitoring Requirements, above. The Project Committee further recommends that this Memorandum be accepted as the Loan Completion Report (as required by USAID Order No. 3.12).

APPROVED: \_\_\_\_\_

  
Robert Halligan  
Director, USAID/Thailand

DATE: \_\_\_\_\_

25 March 1983