

PD-ABN-637

92685

Th

THAILAND SERICULTURE/SETTLEMENTS
PROJECT

AID LOAN NO. 493-T-048

USAID/THAILAND

AUDIT REPORT NO. 2-493-81-
September 1981

BEST AVAILABLE COPY

A

BACKGROUND AND AUDIT SCOPE

Background

The Thailand Sericulture/Settlements Project Agreement (AID Loan 493-T-018), signed September 8, 1976 provided for a \$2.6 million loan to increase the farm income of 1,500 rural families through establishment of modern sericulture (silkworm raising) technologies in ten settlements in Northeast Thailand. As of March 31, 1981, \$1,200,421 had been expended.

Modern sericulture differs from the traditional sericulture long established in Thailand in several respects. While farmers have engaged in traditional sericulture in Thailand for hundred of years, they have basically used a native silkworm which produces an irregular fiber called the weft. This fiber is used for weaving cross threads (from side to side on a shuttle), but is too short to be used for the warp (lengthwise threads).

Modern sericulture utilizes a hybrid silkworm which produces a filament three times the length of the native filament and can be used for either warp or weft. Since Thailand has always had to import the warp, the development of a domestic capacity to raise the hybrid worm was considered desirable, and economical.

Raising the hybrid worm entails a specialized (Japanese) technology, which in turn requires special training, special eggs, special mulberry leaves, and painstaking care. Both the worms and mulberry leaf diet essential to their survival (they will eat nothing else) are much more susceptible to disease than the traditional varieties and require more intensive labor and capital.

The AID Loan was divided into two equal portions. The \$1.3 million to be provided to Thailand's Bank for Agriculture and Agricultural Cooperatives (BAAC), together with an equal amount of BAAC funds, would be loaned to participating farmers and coops. The remaining \$1.3 was to be utilized by the Department of Public Welfare (DPW) to develop facilities and improve roads at the settlements, and to conduct farmer training.

The BAAC funds were lent to farmers. The median loan was 25,000 baht (\$1,200), which was generally disbursed to the farmer in installments. Most farmers initially received 5,000 baht to establish a mulberry tree plantation, then one or two installments to construct a mature silkworm rearing house. The funds provided by AID to the DPW were utilized to build central young silkworm rearing houses in the settlements, where the worms were hatched from eggs and fed through the early stages of growth. The worms are then carried to the farmers' mature silkworm rearing houses,

where they are fed leaves from the farmer's own crop until they spin cocoons. The cocoons are then dried and marketed with 40 percent of each farmer's sales proceeds deducted by the DPW and sent to the BAAC to pay principal and/or interest on the individual's loan.

Ideally, each farmer was expected to participate in six cycles per year. AID funds were used to maintain key roads in each area, since worms and eggs must be delivered at the proper time, and perishable cocoons must be sent to the drying facilities within a few days after the cocoon is spun.

Training was to be provided for PWD extension officers and one member of each participating family, and seven extension workers were supposed to be at each settlement, a ratio of one for each 20 families.

Audit Scope

A number of project evaluations were conducted, in 1979 and 1981, and an evaluation/design study was performed by Nathan and Associates in late 1975 prior to loan approval. The present audit avoided duplicating their efforts and repeating their recommendations, although in cases where their recommendations have not been effectively implemented, we have

reinforced the recommendation.

We examined the financial records pertaining to the BAAC loans to individuals, and we examined project vouchers to assess compliance with Agency regulations and the effectiveness of the voucher certification process.

We visited selected farmers chosen at random in two communities and a number of others at a third community chosen because of location or loan repayment record. Roads and facilities were also examined. The audit took place in June and July 1981. The three settlements visited were Chiang-Phin and Hual-Luang settlements in Udorn Province and the Ubonrat Dam Resettlement in Khon Kaen province. See map, Appendix B. We also conducted interviews with settlement supervisors, local and central BAAC officials, and officials of the DPW and Ministry of Agriculture's Sericultural Division.

Our audit findings were discussed with Mission officials and their comments were included in the report, where appropriate.

There were no prior audits of this project.

AUDIT FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Project Scope Needs to be Reduced

Although AID acknowledged from the beginning of the project that it had limited experience with sericulture, that the new technology was complex and subject to several high-risk variables, and that silkworm raising has traditionally been a marginal and off-season enterprise for Thai farmers, the project was launched on a relatively large scale. It was designed to reach directly a total of 1,500 farm families representing 10,000 people in 10 land settlement areas of Northeast Thailand over a five year period.

44-257
The goal of reaching 1,500 families has not been achieved and the level of participation may even be decreasing. An evaluation carried out early in 1981 by Thai and Japanese experts under contract to USAID estimated that only 531 settlers were participating in the project, compared to an estimated level of 1,200 in the fourth year. The situation is possibly even more discouraging than indicated by either previous evaluations or current reporting. Many participants have received the loans, but are either not actively producing, or are raising silkworms for only one or two of the projected six cycles. The figures for the first cycle of 1980 indicated that only 386 farmers were producing cocoons. While this represented an increase over the first cycle of 1979, the number

of farmers still raising silkworms by the fifth cycle in 1980 had dropped off to 164, whereas in 1979, there were 216 still involved in the fifth cycle.

This is because of the shortage of mulberry leaves.

first cycle of

Figures for the current (1981) season were still preliminary, and did not indicate the actual number of farmers ³⁵⁰ involved.

However, the cocoon production indicated a drop from 9,934.1 kg in 1980 to ^{9,222.3} ~~5,641.9~~ kg in 1981, a decrease of ²⁷ ~~43~~ percent. If there were no drastic changes in production per farmer, then it is possible that as few as 220 farmers were still involved in the program. The second cycle figures will be important, as there were indications in the field that a diseased domestic egg had ruined the entire first cycle for at least two settlements.

Our field visit confirmed the impression gained from overall production figures, although while some settlements were experiencing serious declines in participation, others were doing better. In Ubonrat Dam settlements where 97 farmers had been given loans from AID funds, only 38 were still actively engaged in sericulture. Five had taken only part of the loan and decided not to continue, thirteen others had planted mulberry trees and constructed a silkworm house and then dropped out of production altogether, plowing under their mulberry fields and planting some alternative crop, such as cassava or sorghum instead. Thirteen others, according to the project supervisor were still maintaining one or two rai

This is a special because of the establishment of a paper mill industry near by.

-6-59 inactive farms are
5 drop out
13
13 reluctant
9

(one rai =0,4 acres) of mulberry trees, and were basically in a "wait and see" posture, while the other non-producers were not categorized. One farmer had converted his worm house into a rental unit and was using the rental proceeds to pay off the loan.

Since in nearly all cases, loan repayments are automatically deducted from the individual's cocoon sales (approximately 40 percent, with the remainder going direct to the farmer), the rate of loan repayment corresponds to the rate of production. A number of farmers were in financial difficulty in Ubonrat Dam. Thirty-six percent had paid back no principal at all. The BAAC lender lists showed only principal and not interest payments, but individual passbooks showed that many farmers were far behind on interest payments as well.

When actual performance is compared to projected figures for the fourth year as set forth in planning documents, the project in 1981 is reaching only from ⁴⁴~~20-30~~ percent of its planned participants and has resulted in cocoon production of ~~16~~ ²⁰ percent of its original target. Repayment of loans is also behind schedule, and deteriorating further, dropping from 50 percent of scheduled repayments (as of 12/31/79) to 48 percent of scheduled repayments on December 31, 1980. (*principle or interest*)

The reasons behind the lack of project success are diverse, but two major failings seem paramount: the careless selection of settlers, and a dearth of adequate technical assistance. When we interviewed farmers and settlement supervisors regarding the circumstances behind the failures, we found that most of the problems had been anticipated by the project designers, but implementation of corrective or preventative measures was not satisfactory. For example:

- lack of surplus labor: Care of the worm requires the service of at least one full-time family member, and more at certain times. In Thailand, the daughters usually fill this role. In several cases, the daughters had gotten married or gone to Bangkok to pursue alternative employment, leaving no one to care for the worm.
- inadequate mulberry leaf production: Silkworms eat voraciously and if not fed abundantly three times a day, will not complete the cycle, or produce the optimum cocoon. Earlier estimates put the number of rai required for mulberry production at 4 to 6 per family. While figures indicate that the overall average plantation per farmer has been 4.78 rai, the range is considerable and in most of the settlements farmers have entered the program with plantations considerably smaller. We also encountered

instances where the land area devoted to mulberry cultivation was sufficient but production was inadequate due to soil condition (one farmer planted the lowest and most frequently flooded part of his holdings), improper cutting, weeds, spacing of trees, or root rot disease, which may have affected up to 10 percent of the area.

-- Inadequate technical assistance: This significant deficiency is discussed as a separate issue on page 15.

The problem of lagging participation was noted in 1979, and the DPW proposed, and the USAID agreed to expand the project to cover 3 more settlements in the Northeast. The new settlements were already within the DPW's sericultural project coverage. As stated in a DPW letter of June 29, 1979, "the purpose of inclusion of these three settlements is to enable the project to comprise as many as 1,500 families according to the target set forth, with the same amount of funding under the loan agreement. Should there be any necessity to increase some expenses, PWD will consider making payment therefrom (sic) from the regular budget." While the USAID agreed to the addition of the three communities in Project Implementation Letter No. 8 (July 20, 1979), it also stipulated that the amount of loan

funding would not be changed from the initial loan agreement and that any additional expenses not covered by the loan would be met from the RTG regular budget for the DPW.

In March 1981, however, the DPW asked for AID funds to finance the costs of road improvement for the three new settlements. On May 22, 1981, the USAID approved \$83,373 for that purpose (Project Implementation Letter 19), despite the previous understanding that DPW funds would be used. — defend.

Hence the USAID not only reversed its earlier decision not to fund increase costs of the DPW, it probably caused the exacerbation of problems inherent in the project. *not true. This is what the USAID is doing - DPW submit the financial plan every year.*

Instead of analyzing the reasons behind farmer reluctance and concentrating on corrective actions, the project managers, both USAID and RTG sought to attain the target numbers simply by adding more communities. This somewhat artificial expansion on paper had the effect of spreading project resources ever thinner without any real gains in terms of increased participation.

The pressure to enroll the quota of 1,500 families, or ³⁰⁰200 a year also may have led to a lessening of standards in the selection of who would receive loans, which in turn has led to individual loan failures. Early bank reports showed that

in some settlements every one of the loan applications were approved while in others less than half were. The percentage of loan applications approved has also dropped from an 84 percent figure in 1977 down to 64/^{percent} in 1978, and has since levelled off at about 75 percent. Many circumstances that caused farmers to cease sericultural activity should, in many cases have been brought out by the loan application screening process. In some cases despite selection criteria a "surplus" laborer was not available. When the regular laborer become unavailable (usually the daughter got married or moved to Bangkok, but there was also a case of a husband going to Saudi Arabia, a death, and even a wife finding out she was afraid to touch the silkworm), the family had to discontinue production, since there was no one to take the place of the/^{unavailable} family member.

A recent evaluation report has recognized the shortfall in reaching the target and recommended that the target be re-defined as only 1,000 farm families in the 10 original settlements. We suggest that further attempts to attain numerical targets be discontinued, and the objective now become the maintenance and support of the ³⁰⁰⁻⁴⁰⁰ 220-320 families who still appear to be engaged in sericulture, and financial counseling and emergency assistance for those 300-400 farmers who have received loans but who have either not been able to enter production, or have been unwilling or unable to continue. Further loans should be made only when strict adherence to

existing guidelines is maintained

Recommendation No. 1

USAID/Thailand establish procedures which will insure that any new loans are made only to those who strictly meet borrower selection criteria, particularly those of having at least one "surplus" laborer, and 4 rai of mulberry (or the willingness and ability to purchase the equivalents). .

Yes

BAAC Had not Met its Financial Commitments

It appears that the BAAC, which receives the AID money directly at 2-3 percent and loans it out at 8 percent, does very little to earn its 5 percent spread. Due to the method of payment (whereby 40 percent is automatically deducted by the DPW settlement supervisor at the time of sale, and a check sent directly to the BAAC), the majority of the book-keeping is handled by the DPW supervisor . The DPW acts as collection agent, and the individual passbooks, which tell how much an individual has borrowed and paid back, are kept at the settlement by the DPW. The bank must keep records of the amounts repaid to it directly, but appears to have a minimum amount of contact with or need to counsel those in repayment difficulty.

Furthermore, the BAAC was supposed to contribute on a 50-50 basis to the loan fund with the USAID. In reality, it did not contribute at all during the first three years of the project. All loans were therefore made with USAID money, minimizing the bank's exposure. While this practice was eventually questioned by the USAID, and the BAAC's contribution was solicited, as of June 30, 1981 it has still contributed just over 2,000,000 Baht to the project, compared to AID's share of over 10,000,000. Since it has already received repayments from farmers reflows of nearly 3,000,000 Baht as of March 31, 1981, it still is basically operating without any investment of its own capital.

Nevertheless, the BAAC has expressed concern over the lag in the repayment process and recently requested the DPW to control its marketing process more seriously so that the bank would receive more in collections. The BAAC does not appear to play an active role in pursuing delinquencies itself. In some cases borrowers have been exempted by the DPW supervisor from the 40 percent automatic payback deduction at time of sales without any apparent standard or guidelines.

With the DPW handling the major part of the responsibility for collection and accounting for loan proceeds, it might

have been more effective to have designated the DPW to act as loan administrator with the BAAC acting only as a depository for unused loan funds, or repayments. Thus the DPW could either pass on a lower interest rate to the farmer, use the profits of relending to counsel delinquent borrowers, or both. The DPW could then also know which farmers were selling cocoons outside the marketing system and monitor individual's repayment records, which it cannot now do.

The BAAC has recently asked to increase its interest rate, and the USAID, which has very little leverage at present, having made most of its contribution "upfront" has agreed. Since there is very little farmer interest in participation at present, this will have virtually no practical effect unless it is made applicable to loans now in existence, as had been rumored in Nakhon Phanom province. The BAAC has indicated through its representatives that this will not be done, and we suggest that the USAID monitor the situation.

As of June 30, 1980, USAID advances to the BAAC totaled approximately \$477,370 and another voucher for \$9,760 was in process. Even if the BAAC's estimated unliquidated obligations (loans which were granted but have not yet been totally disbursed) are taken into consideration, remaining BAAC funding of over \$750,000 (See Exhibit A) appears excess to project needs and should be deobligated.

Recommendation No. 2

USAID/Thailand (a) deobligate the monies now earmarked for the BAAC, and (b) assure that funds now earmarked for the DPW are used to assist present participants with the potential for resuming sericulture production rather than continued program expansion.

Technical Assistance Efforts Inadequate

This pilot effort was a high risk endeavor that attempted to transplant a primarily Japanese technology to one of the less developed regions of Thailand. As such the degree of technical assistance required would be quite high, and the project designers felt that a ratio of technical advisors to participants should be 1 to 20.

The project paper also implied considerable technical assistance input, referring to (1) Cooperatives in each settlement staffed by PWD, (2) MOAC training of PWD supervisors and 70 PWD extension officers, (3) 95 MOAC extension agents to assist in mulberry plantations, (4) a one month training course for every one of the 1,500 participants and (5) a team of management consultants budgeted at \$150,000. The loan agreement made brief reference to training and technical

assistance, but no definite numbers were mentioned.

At the time of our visit, technical assistance being provided to the settlements was minimal. At one settlement, the acting project supervisor told us that the first cycle of cocoon production had been wiped out because of a worm disease. He said he felt quite helpless because he didn't understand the problem and he stated that a sericulturist would have been helpful at that time. Another nearby settlement had also lost a cycle, since the worms had come from the same central rearing house. During a visit to one farmer, we observed that one of the DPW officials immediately opened the shutters on the mature silkworm rearing house, explaining that it was too hot for the worms. Another farmer told the visiting official she was not engaged in sericulture because she had "dreamed" all the worms had died. In actual fact, they were all healthy that cycle at that settlement. At one central young silkworm rearing house, a small hole was noticed in the screen which could have allowed flies to enter, laying eggs which could have led to worm disease. While all these events were minor, they were indicative of a general absence of advice and counselling.

The USAID Project Manager told us that six of the 13 settlements will have skilled advisors in the future, (Prasat, Lam Dom Noi, Kham Soi, Kuchinari Ubonrat Dam and Non-Sang).

While this represents an improvement over the present situation, all remaining participants, having been encouraged to join the program, should have the benefit of what technical expertise exists.

Shortly after our visit to Ubonrat Dam, the settlement where so many farmers had ceased participation in the project, we visited a MOAC sericulture station approximately 10 kilometers away. There were in addition to the Director, seven sericulturists at the station. We were informed that for the sericulturists at the MOAC station to visit the PWD settlement, a formal request would have to be made. When we asked the Director of the MOAC Sericulture Station, which was currently engaged in research involving root rot, a disease affecting the mulberry leaf, how much root rot was present at the nearby Ubonrat Dam Settlement, he indicated that the DPW supervisor would be the best source of that information. Conversely, when the Director of the Sericulture Station announced that they were very close to developing a new variety of mulberry tree ("Pai") which was highly resistant to root rot, this was a new development not known to the Project Supervisor. Finally, trip reports indicated that the amount of farmer training envisioned by the project designers did not come about. While all participants were to have received one month training, evaluating teams found that on an average ^{about 55} less than 40 percent had received training.

of whom.
The trip reports also documented considerable evidence that participants were not receiving needed technical assistance.

Excerpts from the reports follow:

- " The farmers did not understand the mulberry pruning and harvesting method."
- " The farmers did not understand how to separate the deceased silkworm from the healthy one."
- " The ratio of extension worker to farmer (was) not sufficient".
- " Uncorrected method of pruning and harvesting, some farmers used knives which cause tearing of bark or branch.
- " Young silkworm rearers are too young, no basic knowledge in sericulture to rear the silkworm".
- " They did not understand how to collect the mature silkworm in economic ways."

From all of the above mentioned facts it seems clear that
1) technical assistance at the participant level was inadequate
and (2) the amount of coordination between the MOAC, and PWD
was minimal in at least one important settlement. When we
attempted to confirm the lack of coordination, some project
officials stated that it was a fact of Thai bureaucratic life
that Agencies did not involve themselves in other Agencies'
jurisdictions (in effect confirming ^aproblem) while other,

higher level officials stated that no barriers to total cooperation existed.

We have also noted instances when technical advise was given low priority when competition for resources existed. Very early in the project, the DPW programmed \$165,000 in project funds from the technical consultants to secretarial positions. The USAID also agreed to the diversion of funds designated for consultants for the construction of cooling rooms and incubation rooms, which were not completed on schedule and are not even needed at present. (see p. 24). Other technical assistance funds have also gone unused even though other aspects of the project have already exceeded their budget.

*which never
received
approval
for USAID*

The dearth of technical assistance should not be allowed to continue, even if the participation of AID is nearing its end. Some sort of well trained sericultural expertise must be present at each settlement at a minimum even if only on a visiting basis. The few present extension workers, some of whom have received no formal training, are clearly not sufficient. If funds must be reprogrammed from other project purposes, such as road maintenance, this should be done.

Recommendation No. 3

USAID/Thailand and DPW jointly work out a program of technical assistance whereby all settlements still involved in the project have as a minimum the benefit of at least one well-trained sericultural agent during their rearing cycles.

Project Reporting Should be Improved

While both BAAC and DPW have made the reports required by the AID Loan Agreement and Project Implementation Letters (PILS), in several respects improvements could be made which would enable project management to assess more accurately the rate of project progress and diagnose problems more quickly than is presently the case.

For instance BAAC reports show the total number of loans extended both for mulberry plantations and for mature silk-worm houses. This is confusing since usually these are just two phases of the same loan and refer to the same individuals. There is also no distinction made between the active and inactive portfolio, and if an individual drops out and repays his money to the bank he is still counted as a participant. We suggested that the BAAC reformat its present quarterly report to show number of loans still outstanding (a better indicator of project progress) and eliminate the less useful distinction between mulberry and

*BAAC reports
should
be reformat
to show
number of
loans still
outstanding
and
eliminate
the less useful
distinction of
mulberry and
silk-worm*

rearing house loans. It would also be helpful to project managers to know how many borrowers in each community did not make payments on either principal or interest each quarter in each settlement. Such information would alert project managers to areas where technical assistance or financial counselling might be needed.

PWD reports would be more helpful if they provided some information to project management on what the non-producers were doing. In Ubonrat Dam, for example, while the upcoming PWD report will presumably show that only 38 of the 97 borrowers were engaged in sericulture production, the knowledge of what the other 59 are doing exists only in the head of the supervisor. While it would be hard to accurately categorize all situations, it should not be too difficult for a supervisor, with the help of extension agents, to report for each cycle the number of non-producers, and classify them by general reasons for not rearing worms, e.g. worm diseases, plant disease, lack of labor, use of lands for other crop production, lack of other inputs (equipment, fertilizer, etc.).

There is a discrepancy between the total amount of BAAC loans reported in the quarterly reports, and the amounts claimed by BAAC from the USAID, which reimburses BAAC (see p. 13). The BAAC had reported 11,836,230 baht in loans as of March 31, 1981, while USAID had reimbursed 9,977,020 as of that date

and the BAAC 2,027,860 or a total of 12,004,880, a difference of 168,650 (\$8,035). BAAC officials checked their records during our audit and demonstrated that their portfolio corresponded to the amounts claimed from USAID, but acknowledged that errors existed in the quarterly reports, and agreed to correct them. Therefore it is necessary only for the USAID Project Officer to monitor subsequent reports to see that they correspond to amounts claimed on reimbursement requests.

The supporting documentation submitted to USAID by BAAC with vouchers for reimbursement was also deficient in that it frequently did not refer to any particular period of time. It was impossible to determine whether or not a loan or group of loans was submitted for reimbursement twice without going through all vouchers and comparing totals for all settlements. Similarly, on vouchers submitted by DPW, road improvements were described only by the settlement name, number of kilometers and amount. The lack of any date makes it extremely difficult if not impossible to verify if and when the work was done.

Recommendation No. 4

USAID/Thailand, BAAC and DPW devise new report formats which will indicate which loan

portfolios are no longer active, the number of borrowers in each community not making principal or interest payments, the number of farmers in each settlement no longer producing and marketing cocoons, and summary information on the reasons for discontinuation.

Recommendation No. 5

USAID/Thailand verify that the BAAC Quarterly Report Loan figures in the quarterly report ending June 30, 1981, and all succeeding quarterly reports correspond to the amounts of loans as reported in BAAC requests to USAID for reimbursement.

Recommendation No. 6

USAID/Thailand require that supporting documentation submitted by the BAAC and the DPW with reimbursement requests contain sufficient information so that USAID knows when loans were made by the BAAC, and when road work was done by the DPW.

Construction of Cooling Rooms not Completed on Schedule

In August of 1979, the DPW requested funds not to exceed 580,000

baht to build cold storage rooms at Khon ^{Kaen} Kaen, Mukdahan, Ubon ^{Sukolai} Ratchathani and the ^{Ministry of Agriculture's Sericultural} Ministry of Agriculture's Sericultural

Experimental Station (Korat). Funds were provided from the

amount set aside for consultants under the project. A contract

for B458,130 was signed between the DPW and Meng Industry

on November 24, 1980. It guarantees that the work would be

completed by May 22, 1981 and contains a penalty clause of B460

a day for not completing all work by May 22, 1981. At Ubonrat ^{Khon Kaen}

^{Sericulture Experimental Station} Dam Settlement on July 1, 1981 we observed that work on the

proposed cooling room there had not even been started.

The cooling rooms themselves were added for the project as an

after thought. They are intended to assist in the incubation ^{the male butterfly to be}

^{able to make more males in order to get more eggs} of the domestically produced eggs. Since several unfortunate

experiences with domestic worm eggs have led participants

to import Japanese eggs, it is now questionable whether or

not the cooling and incubation rooms will ever be used. ^{I was used next at Mukdahan and Ubon Sericulture stations for incubating the silk worm}

RTG was, and still is, officially committed to a policy of

producing a domestic egg, and we cannot therefore be critical

of the USAID decision to fund the DPW request. It does

illustrate another example of a lesson which, had this

"pilot" project been first conducted on a more modest scale, could have been learned with an expenditure of a fraction of the cost.

Recommendation No. 6.

Done
USAID/Thailand obtain from the RTG a satisfactory explanation for the construction delays and unless there are clearly extenuating circumstances, invoke the penalty clause.

Procurement Charges Appear Excessive

Another element of the project not foreseen in the original design was the cocoon drying facility at Ubonrat Dam Resettlement area. The USAID authorized the plant with the understanding that the DPW would budget for another three drying plants to be constructed in other areas. We were informed that the other three have not been constructed, and that when built they would be greatly different in design from the USAID constructed drying ^{plant,} probably, charcoal fired rather than electric, due to RTG budgetary restrictions. *lent one will be built at Khan Sor Lad S. 11/21/81*

A contract was signed between the DPW and local importer to arrange for the purchase of this plant, which had to be imported from Korea since no U.S. equipment was available. The DPW later submitted a voucher to USAID for reimbursement which included, in addition to the price of the machine (CIF. B124,230.00) another item called "management and profit," ✓

(#94,930.39). Since construction costs, associated equipment costs and installation charges were also included elsewhere in the voucher, and import duties and fees were specifically excluded from such a host country contract by both the Loan Agreement and the contract itself, the "management and profit" then was simply a purchasing commission and should not have totaled well over 75 percent of the cost of the item itself.

While we see no grounds for a recovery, since we note that the item was correctly designated as a profit to the importing agent, we suggest that the DPW consider procuring such items themselves, or if lacking the expertise, ensure that they are more reasonable in relationship to the price of the item, i.e. 8 percent - 12 percent, which is in the range of what GSA or AAPC charges for acting as AID purchasing agents on other occasions.

Recommendation No. 7

USAID/Thailand establish procedures to preclude further approvals of vouchers involving purchasing commissions in excess of 15 percent of the rest of the item, without special justification.

Extension of Project One Additional Year; With No Additional Funding

The Thai Sericulture/Settlements Project has failed to achieve most of its goals, as pointed out above, and in previous evaluation reports. This can be supported by comparing actual achievements against targets in several categories (member participation, production, profits and loan repayments). To label it a complete failure would be inaccurate at this time however, as there are a few indications of potential success in certain settlement areas, and if the farmers who have succeeded continue to enjoy a higher income after loan repayment, they will undoubtedly have a demonstration effect for several others. On balance however, the relatively small number of participants who have succeeded, the relatively high cost per successful participant, and the extremely risky nature of this highly technical and multi-faceted project, all argue for no further investment of AID development funds.

We do not recommend that the project be discontinued, although a very persuasive case for this could be made based on either economic or technical grounds. The one-year extension proposed by the USAID should be granted, if only through obligation to the many poor farmers who, under the rubric or a US-funded project, have been encouraged to incur an indebtedness from which recovery may be difficult if not

impossible. AID has funded a project which, as implemented, in effect helped some of the poorest of the poor get even poorer.

What is needed is a reprogramming of funds away from further loans, new rearing houses, cooling and incubation room, and road rehabilitation and into the areas of technical assistance, short-term credit for fertilizer, insecticide and other inputs for participating farmers and perhaps even additional emergency assistance in the form of maintaining centralized mulberry plantations for use by marginal mulberry producers. The evaluation team in its Spring 1981 report recommended several courses of action that should lead to a productive use of remaining DPW funds. For example:

1. Expand the central mulberry plots in ~~10~~ settlements, including the establishment of ~~10~~ farmer demonstration plots *in every project site*.
2. Provide training for farmers and project staff.
3. Form an inspection team that will visit the 10 settlements on a continuous basis to monitor project progress.

We would further suggest that:

1. Rather than establish new demonstration plots, a participating farmer, centrally located, and a marginal producer, be enlisted as a demonstration project,

2. The training be oriented to the actual participants themselves, particularly those with a financial investment, and
3. The inspection team issue regular trip reports, incorporating some of the same information suggested in demonstration 2 above, with copies to the USAID.

We concur in the one-year extension and even believe that some success stories may yet emerge, (which appears to be the case in such communities as Kham Soi or Huey Luang). However any renewal of AID financial commitments at the end of this extension should only be considered after the following economic questions which we found extremely troublesome, have been addressed:

1. The encouraging fact that some farmers were repaying the loan must be tempered with the realization that the price per kilot for cocoons had risen over 80 percent over the four years of the project. The price increase was supported by the government. What would the success rate have been without this generous support, or what will happen if the government abandons the project?
2. The warp yarn filament which the project is designed to produce now can be imported from China at 900 baht per kilo . The government-maintained price for domestically produced warp is 1,200 baht. The only

*at market
a seller
Price may be
higher if we
provide a
competitor.*

reason processors do not import all warp is that, by law they must buy 20 kilos of domestic for every kilo they import. In view of the lack of success in producing a domestic worm, would not a return to importing be more economically advantageous after all?

It can be economically better if the weavers but the poor farmers at all.

3. What is the extent of root rot and other diseases such as aspergillus, stem borer, mildew leaf blotch, termites, muscarbina. Estimates of root rot vary greatly (80-90 percent in some communities) but is said to be only 10 percent by other sources. Since root rot was not expected to be much of a problem in discussion of project assumptions, the real significance of this disease must be first learned, and then its impact on production costs assessed.

Research is still going on.

4. The BAAC, which despite receiving the AID money at concessionary terms (3 percent) and relending it at 8 percent, with a minimum of collection effort, (see p. 12) maintains it does not profit from the project and has indicated it may increase interest rates, perhaps to its normal rate of 13 percent. Such a development would decisively impact on a financial analysis, and affect participation.

Recommendation No. 8

That the USAID/Thailand provide assurances that at least the four analyses described above will be performed before any proposals for subsequent funding of this or any other sericulture projects are made.

*We already
provided.*

Road Maintenance and Rehabilitation

The project plan had called for 6,840,400 baht of the 27,342,000 baht allocated to the DPW to be used for road improvement. This figure had been exceeded by FY 1979, and further work amounting to 1,728,125 baht was planned for FY 1981 due to the three new communities added to the project.

We were told that the roads must be passable at all times so farmers can receive silkworm eggs, or get cocoons to the marketing centers or drying plant. However, when we asked to visit one of the 27 farmers located at the end of a long USAID-improved road, we were told that no silk farmers under the AID project were in that area. (We later learned that some resided there but had later dropped out). The USAID engineer also told us that in some cases, roads were planned based on applications and farmers later withdrew their applications or found that the road helped them to market other food crops.

Most of the rehabilitated roads were still in good condition two to three years after the maintenance work. However wood bridges connecting the road were frequently in deplorable if not dangerously unsafe condition, and it was obvious that even a road in perfect condition would be useless if the bridge were washed out. The USAID engineer told us that the bridges were not included in the rehab plans because of expense (see Exhibit C).

Also a large pulp & paper company had constructed a huge industrial complex in Ubonrat Dam right across the AID maintained road. The road conditions just before the complex were extremely rough, due unquestionably to the heavy trucks importing kenaf to be processed. While the USAID was unaware of the ultimate factory location at the time the road was improved, it would not seem warranted that any other improvements be made to that portion without agreement from the industrial owners on sharing a large part, if not most of any further costs. The USAID engineer told us that the company has agreed to black top the road in the near future.

We already approved
We also suggest that the road improvement program be curtailed to emergency maintenance, in view of the short period of AID's remaining involvement.

Recommendation No. 9

USAID/Thailand establish procedures to insure that no further funds are spent for road rehabilitation except in those areas where a demonstrable and direct impact on currently producing participants can be shown; and that the condition of bridges along such roads be taken into consideration and incorporated into the rehabilitation work if necessary.

EXHIBIT A

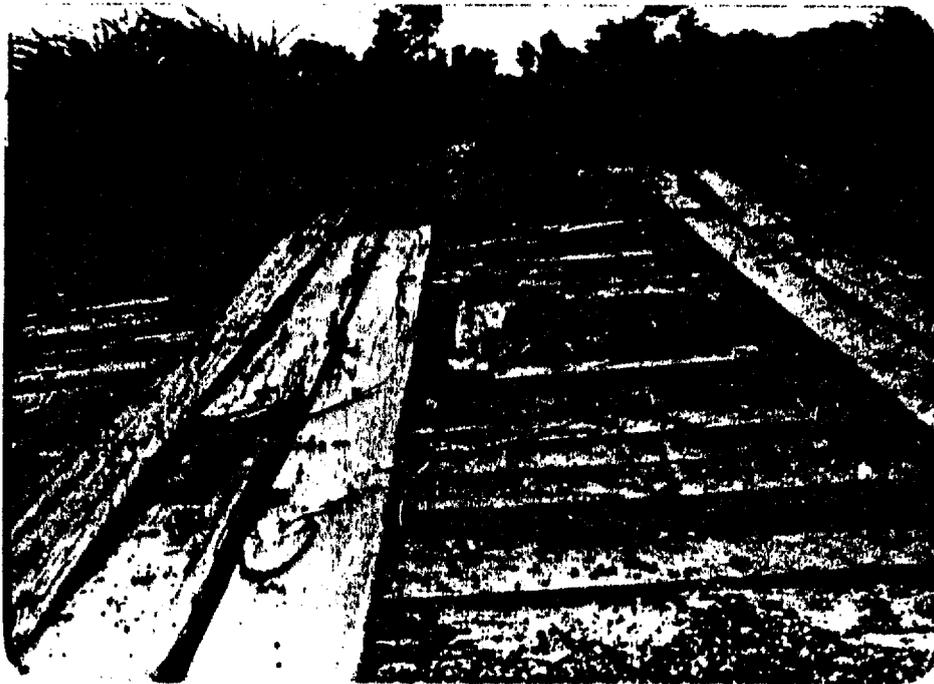
PROJECT FINANCIAL STATUS
Expenditures

As of March 31, 1981

	<u>Obligation</u>	<u>Expended</u>	<u>Remaining</u>
P.W.D.	\$1,300,000 <u>+ 62,230^{1/}</u> \$1,362,230	\$725,098	\$637,132
BAAC	\$1,300,000 <u>- 62,230^{1/}</u> \$1,237,770	475,323	762,447 ^{2/}
TOTAL	\$2,600,000	\$1,200,421	\$1,337,349

1/ Provided to DPW in lieu of BAAC for cocoon drying and storage facilities (P.I.L. #5).

2/ Vouchers in process = \$9,722.50.



CONDITION OF BRIDGE ON AID-REHABILITATED ROAD (See p. 33-34)



A.I.D.-Financed Silkworm House being used as Rental Unit.