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A F R I C A N W O M E N I N D E V E L O P M E N T

SILKWORM & VEGETAL TANNIN STUDY

EVALUATION REPORT

AID No. 698-0388.5

UPPER VOLTA

Upper Volta: Income Producing Feasibility 698-0388.5

INTRODUCTION AND BACKGROUND

In 1976 feasibility studies were authorized to determine the income producing capabilities of two activities for women in Upper Volta, vegetal tannin, and silkwork production. The studies were proposed by the Government of Upper Volta (GOUV), which requested AID assistance. Prior to the final approval of the projects by the Africa, Regional Affairs (AFR/RA) office, the Africa/Development Planning (AFR/DP) and Africa, Development Resource offices raised objections to them. The AFR/DP office submitted a memorandum (April 12, 1976) stating that the two studies proposed did not comply with the WID guidelines. The memorandum stated that the feasibility study concerning tanning was requested by GOUV because an Italian firm was considering building a shoe manufacturing factory in Bobo-Doulasso and GOUV wanted to encourage that venture. AFR/DP suggested that the study represented a political trade-off by the GOUV at the expense of rural women, and that a feasibility study would be more properly funded by the Italian firm. The AFR/DR memorandum (April 9, 1976) suggested that neither of the two projects concerned economic development per se; rather, they represented only an income producing possibility in the short run.

Analysis of background documents suggests the reasons for authorizing the studies:

- Prior to the establishment of the shoe manufacturing plant, it was necessary to establish local tanning capabilities. Experiments show that an extract from the seed pod of the acacia nilotica (Gonakie) plant are excellent for use in the tanning process. These trees are found in abundance in the northern and eastern regions of the country. The study was authorized to determine the feasibility of rural women becoming the primary providers of this pod.
- The feasibility of silk worm cultivation was suggested by successful trials in the northern regions of the Ivory Coast. The similarity of environment in Upper Volta suggested that similar efforts would be successful there.

METHODOLOGY

A desk audit was conducted of these two feasibility studies at the Washington AID office. An on-site evaluation was requested of the AFR/RA office, but not approved by the AID mission in Ouagadougou. In light of this decision by the AID mission in Ouagadougou, this evaluation consisted of a thorough document review which was conducted in

Washington. An interview with Maryann Reigelman, WID Project Manager from Ouagadougou, was conducted by project evaluators in Dakar and Washington, D. C. The two existing pre-feasibility studies were read and evaluated against the goals and purposes of the projects. Summaries of both studies as well as the findings, conclusions and recommendations of the evaluation team follow.

SUMMARY - PRE-FEASIBILITY STUDY ON SILKWORM PRODUCTION IN UPPER VOLTA

The study provides a comprehensive overview of all aspects of silkworm production and mulberry cultivation and examines, both from a technical and economic standpoint, the potential for starting such an activity in Upper Volta. Specifically, the study includes information on:

- climate, topography, soil composition, rainfall, and humidity levels in Upper Volta;
- techniques of silkworm production, including favorable environmental conditions, growing periods equipment required, care of worms at different stages of growth, packaging, etc.;
- mulberry tree cultivation, including favorable environmental conditions, growing periods, planting techniques, use of by-products, etc.;

- past, present and projected world market for silk; and,
- economic feasibility of this activity for both domestic and foreign markets.

The study draws the following conclusions:

- That, from a technical and economic standpoint, silkworm production would be a viable venture with maximum potential for success in Upper Volta due to:
  - an ample supply of cheap labor;
  - favorable ecological conditions for the cultivation of the mulberry tree; and
  - large, vast areas of cultivatable land for the mulberry trees.
- That there are certain factors facilitating the feasibility of such an enterprise in Upper Volta. They include:
  - relatively low, initial outlays of capital to start-up this activity with the potential for high profitability; and,
  - reduction in the raw silk production operations in developed countries due to the high cost of labor.

The study recommends the following:

- That a two-year pilot project be initiated to ascertain the viability of this enterprise for women in Upper Volta.

- That a design team composed of silkworm production experts conduct a study designed to:
  - investigate the level of technology required for planting mulberry trees and producing silkworms;
  - organize large-scale production of silkworms and mulberry trees;
  - study the possibility of developing industrial silk production locally with the possible diversification into silk thread production; and
  - organize the marketing.
- That mulberry tree plants be distributed to rural farmers for planting to test their adaptability to the environment.

EVALUATION OF PRE-FEASIBILITY STUDY ON SILKWORM PRODUCTION IN UPPER VOLTA

Within the overall framework of determining the feasibility of launching income generating activities[3] involving women, the specific purposes of this study were to:

- furnish the botanical and agronomical information necessary to determine the possibility of producing mulberry trees and the information needed to raise silkworms.
- Study the feasibility of launching a silkworm production operation.

oStudy the methods for organizing the rural woman in silk production.

- Study the marketing problems.

FINDINGS

The study provides a comprehensive, in-depth examination of all aspects of silk production and mulberry tree cultivation. It explores, from a macro-economic level, the economic viability of such an enterprise and discusses the feasibility of launching a silk production enterprise in Upper Volta. It does not address the issue of involving and organizing women in silk production, and, as such, fails to meet one of the stated purposes. Questions which remain unanswered are as follows:

- What mechanism would be used to involve women in this activity?
- How would the men share in production, marketing and the income earned from such an activity?
- What would be the income generating potential of such an activity for the individual rural woman?
- How would the production and management of the various stages of the operation be participated in by women at the village level?
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CONCLUSIONS

Although this study provides no definitive answers regarding the ultimate profitability of silkworm production

for women in Upper Volta, it does indicate that such an enterprise is feasible. Acknowledging the limitations of the findings, the author points up the need for an additional study prior to the design of any silkworm production project. It is the opinion of the evaluation team that because of its scope and detail, this study can serve as a guide in the designing of a project specific, pre-design study. If consulted carefully, it will be of invaluable assistance to project planners.

RECOMMENDATIONS

The evaluation team makes the following recommendations:

- That, to ascertain the current relevance of the study's findings and the feasibility of implementing a silkworm production project, USAID should reestablish contact with more local government officials concerned with the study.
- That prior to the initiation of any activity, government concurrence and support for the project be obtained.
- That the primary recommendation of the study, directing the initiation of two-year pilot project preceded by a pre-design study, be implemented only after local support for implementing the project is assured.
- That the pre-design team be composed not solely of

silkworm production experts, but,include a Women in Development specialist and an economist.

- That, in view of the initial success of the silkworm production project in Ivory Coast, the design team visit that project to identify potentially replicable elements.
- That the present study be translated and read thoroughly by all members of the pre-design team for use as a guide in defining the parameters and scope of the pre-design study.

Summary of Pre-feasibility Study on the Production of Vegetal Tannin, The Acacia Nilotica Plant in Upper Volta

Although the study begins by stating that certain types of technical and economic information was unobtainable due to time constraints, it goes on to provide a relatively in-depth examination of the botanical characteristics of the acacia nilotica, the techniques and processes involved in producing vegetal tannin and the economic feasibility of launching vegetal tannin prodduction on a large scale in Upper Volta. The study includes technical i ormation regarding:

- The botanical properties of the acacia nilotica, growing times, favorable climatic conditions, etc.
- The chemical composition of the various strengths of tannin produced from the acacia nilotica and a

- A cost benefit analysis of the various stages of the plant and tannin production.
- The present and projected world market for tannin produced from plants.

CONCLUSIONS

The study concludes that cultivation of the acacia nilotica on a massive scale solely for the production of vegetal tannin would not prove to be a profitable activity. It would encounter strong, possibly insuperable competition from chrome tannin and could not compete on the world market. Domestic demand would not be sufficient to render such an activity profitable.

The study does recommend that if the cultivation of the acacia nilotica were to be undertaken as part of a larger more global reforestation scheme, it could become a more profitable enterprise because of the multiplicity of the uses of wood.

Drawing on this latter conclusion, the study recommends that the following steps be taken:

RECOMMENDATIONS

- That an information dissemination campaign be launched to prepare the target population to undertake cultivation of the acacia nilotica.
- That acacia nilotica groves be planted in selected villages.
- That industrial production of vegetal tannin be instituted by government agencies which would also be

responsible for providing technical assistance and organizing marketing.

- That a plan be developed to organize rural populations in the collection of seed pods and the planting of acacia nilotica.
- That a more in-depth study of foreign and domestic markets be conducted to determine potential demand and availability of needed supplies.
- That a more in-depth economic and financial study on the possibilities of meeting demand and the viability of setting up local tanning industry be conducted.
- That the market be monitored during the three-month period corresponding to the period of production and the centers and collection networks be established.
- That state control of organization and exporting be instituted.
- That research to improve the technical-composition of local flora be conducted.
- That forestry laws be written classifying acacia nilotica as a protected tree species.

EVALUATION OF PRE FEASIBILITY STUDY ON THE PRODUCTION OF VEGETAL TANNIN FROM THE ACACIA NILOTICA PLANT IN UPPER VOLTA

Within the overall framework of determining the feasibility of launching income-producing activities for women, the specific purposes of this study were to:

- Obtain the necessary botanical and agronomical information necessary for cultivation of the bonakie and the technical analysis of the chemical composition of the seed pod.
- Determine the probable costs involved in this production and estimate what sort of revenue could be expected.
- Determine how to organize groups and co-operatives to collect these seed pods.
- Determine the production, treatment and care necessary for the seed pod.

FINDINGS

While indicating that certain types of technical and economic information were unobtainable due to a time constraint, the study manages to provide a rather complete overview of the botanical characteristics of the acacia nilotica, appropriate collection methods, extraction procedures for extracting vegetal tannin and the care and production necessary for the seed pod. In the second half of the study, the economic feasibility of vegetal tannin as an income producing activity in Upper Volta is discussed. While offering some suggestions for organizaing rural inhabitants into production units, the study fails to affirm the viability of this activity as an income-generating enterprise involving women as primary producers. A number

of questions remain unanswered:

- What mechanism would be used to involve the women in this activity?
- How would the men share in production, marketing and the income earned from such a venture?
- How would the present local tanners be affected by the mounting of a large scale vegetal tannin production effort aimed at involving women as primary producers?
- How would women participate in the various stages of production at the village level?

CONCLUSIONS

Reflecting the obvious lack of sufficient time allotted to the researcher to thoroughly investigate the subject matter, the study fails to respond fully to a number of issues. Relying heavily on charts, graphs and other materials produced by FAO regarding vegetal tannin production in various parts of the world, the study provides insufficient data on the specifics of undertaking this activity in Upper Volta. The recommendation that the cultivation of acacia nilotica be undertaken does not appear to be a well thought out suggestion for alterntive uses of acacia nilotica. Furthermore, the recommendations do not take into consideration the suitability of the cultivation of acacia nilotica relative to other tree species. In the light of this assessment, the recommendations of this study should not be implemented until and unless additional information regarding the direction and

scope of GOUV/reforestation projects is obtained.

RECOMMENDATIONS

The evaluation team recommends the following:

- That the primary conclusion/recommendation drawn by the researcher directing that the cultivation of acacia nilotica should be encouraged as part of a larger reforestation effort not be implemented until further investigation of the matter is undertaken in consultation with GOUV officials.
- That information be obtained from the researcher regarding her research methodology before any action is taken with regard to the study's recommendations.

One drawback to both studies involves the lack of information regarding methodology. It cannot be ascertained from the study how the information was obtained, how much time was actually spent in Upper Volta conducting research and who the individuals were who served as sources of information. Until this information is obtained, the reader will have no definitive answers regarding the reliability and veracity of the study's findings.