

## Simplified Ex-Post Evaluation for Technical Cooperation Project

Evaluator, Affiliation	Maki Hamaoka Foundation for Advanced Studies on International Development	Duration of Evaluation Study
Project Name	The Project for Strengthening Extension System for Bivoltine Sericulture in India	January 2010 – Decmber2010

### I Project Outline

Country Name	India			
Project Period	August 11, 2002-August 10, 2007			
Executing Agency	Central Silk Board (CSB), Ministry of Textiles Departments of Sericulture (DOS) of the Karnataka (KA) State, the Andra Pradesh (AP) State and the Tamil Nadu (TN) State			
Cooperation Agency in Japan	Ministry of Agriculture, Forestry and Fisheries			
Total Cost	62.379 million yen			
Related Projects (if any)	The Bivoltine Sericulture Technology Development Project (BSTDP) (1991-1997) The Project for Promotion of Popularizing Practical Bivoltine Sericulture Technology (PPPBST) (1997-2002)			
Overall Goal	Enhancing production and quality of bivoltine raw silk and thereby raising the income levels of farmers and reelers.			
Project Objective(s)	Extension system for bivoltine sericulture will be functional			
Output[s]	(1) Action Plan for promotion of bivoltine sericulture will be formulated. (2) Coordination/Collaboration mechanism among CSB and DOSs for extension of bivoltine sericulture will be formulated. (3) System for mass production of quality seed will be established. (4) DOS staff will be equipped with necessary skills and knowledge for extension of bivoltine sericulture, and training facilities will be improved for bivoltine sericulture. (5) Extension model for bivoltine sericulture will be established.			
	Inputs (Japanese Side)		Inputs (Indian Side)	
Experts	8 for Long term, 15 for Short term		Staff allocated	172
Equipments	93 million yen		Equipments	N/A
Local Cost	N/A		Local Cost	213 million RS
Trainees Received	30 for Counterpart Training in Japan		Land etc provided	Office space for Japanese experts
Others	N/A		Others	N/A

### II Result of the Evaluation

Summary of the evaluation
<p>In India, bivoltine raw silk of high quality suitable for warp depended on imports from China. Since 1991, JICA supported India in developing basic bivoltine sericulture technology as Phase-1 of this project and to verify developed bivoltine sericulture technology to farmers as Phase-2.</p> <p>This project continued as Phase-3 to further expand and promote the bivoltine sericulture technology developed by the previous two projects. Through the Project implementation, the function of linkage and coordination between the relevant executing agencies including the Central Silk Board (CSB) and the Department of Sericulture (DOS) of the target states, and support to farmers by these agencies was strengthened. Mass production of quality bivoltine seed was achieved through strengthening production and expansion systems and included staff capacity building of relevant organizations in the areas of seed production and rearing, as well as improvement of necessary facilities. It can be evaluated that the bivoltine sericulture extension system is functional judging from achievements such as the remarkable increase in the number of bivoltine sericulture farmers and the total supply of quality bivoltine cocoons.</p> <p>At the time of ex-post evaluation, the initially expected impacts as the overall goal of the Project, namely, increases in income of bivoltine sericulture farmers and reelers from sericulture and increases in the production of quality raw silk (above 2A level), were achieved: In addition, positive impacts beyond the country were observed. From 2008, a training course on bivoltine sericulture technology under the third country training program was organized by CSB in collaboration with JICA to expand bivoltine sericulture knowledge and technology to participants from raw silk producing countries. There is no problem in the organizational and institutional aspects of CSB and DOS as well as in technical and financial aspects. The bivoltine sericulture extension system has been maintained as established by the Project.</p> <p>In light of the above, this project is evaluated to be highly satisfactory.</p>

1 Relevance
<p>(1) Relevance with the Development Plan of India  “The 10<sup>th</sup> Development Plan (2002-2007)” stipulated strengthening bivoltine sericulture as a new initiative in the sericulture sector to increase production of bivoltine raw silk in the country.</p> <p>(2) Relevance with the Development Needs of India  Sericulture has supported the local economy in South India as a means of employment creation and income generation. The target 3 states are chief areas for raw silk production with 90% of the total national production. Bivoltine sericulture extension of these major raw silk production areas meets the development needs of India as well as those of the target areas under the government objective to increase domestic production of bivoltine raw silk.</p> <p>(3) Relevance with Japan’s ODA Policy  Improvement of poverty and environmental issues is specified as one of three major areas in the Country Assistance Programme for India. Extension of agricultural technology to increase productivity, which brings employment opportunities and income generation in rural areas, is set out as assistance to local development. In the JICA Country Programme (2004), income increases through agriculture is specified as development issue of “poverty reduction”, one of the priority areas.  This project has been highly relevant to the country’s development plan, development needs, as well as Japan’s ODA policy; therefore its relevance is high.</p>
2 Effectiveness / Impact
<p>(1) Achievement of Project Outputs and Project Objective(s)  Following outputs were achieved during the Project period.</p> <ul style="list-style-type: none"> <li>• Basic information and issues regarding bivoltine sericulture were analyzed by the Bivoltine Cell, a unit established in CSB and DOS. The Bivoltine Cell organized monthly, section and quarterly meetings. Linkage and coordination between CSB and DOS were thus strengthened.</li> <li>• Hatching, defective cocoon, absent sex, and pupation rates were improved as expected. It can be concluded that a mass production system of quality seed was established as planned.</li> <li>• Through training at the Technical Service Centers (TSC), Sericulture Training Schools (STS), and Reeling TSC knowledge and techniques of the stakeholders (staff of relevant agencies, institutes, and farmers) were improved.</li> <li>• The number of chawki rearing houses managed by Quality Clubs increased from 40 to 102 a compared to the initial target of 100. Sericulture related tools (rotary moutage, cocoon deflossing machines were introduced to the Basic Seed Farms (BSF), grainages and farmers.</li> </ul> <p>Through the achievement of these outputs, the number of bivoltine sericulture farmers increased from 786 in 2003 to 3698 in 2006 as compared to the initial target of 3600. The quantity of bivoltine cocoon transactions increased steadily from the beginning of the Project, although the achievement in 2005 was only 60% of the initial target of 2000t. The supply of quality bivoltine seed reached 6,534 t, which more than exceeded the initial target of 3,360t. The initial targets of the Project were thus achieved.</p> <p>(2) Achievement of Overall Goal, Intended and Unintended Impacts  As a result of Project implementation, bivoltine sericulture farmer and reeler income increased from sericulture. At the Project commencement, the average annual income from sericulture of JICA selected farmers was 94,000 Rs. At the time of the ex-post evaluation, it increased approximately to 170,000 Rs. Average annual reeler incomes from sericulture in the target states increased from 200,000Rs to 300,000Rs. Before the Project commencement, the income of JICA farmers was almost the same as other sericulture farmers in India. It is now 1.4 times that of non targeted farmers. The average annual income of reelers in India is 100,000 Rs. Judging from these differences in income between Project beneficiaries (JICA farmers, reelers in target area) and non-beneficiaries, the increases in income seem to be attributable to the Project. Regarding another overall goal, “the increase in the production of quality raw silk (above 2A level)”, the production increased from 507t in 2002 to nearly 900t in 2007, in 2008. It decreased slightly in 2009, but on the whole, it has steadily increased. Increases in income brought a range of improved living conditions of JICA farmers: the renovation of dwellings with concrete buildings; the education of children at better schools and colleges, and the purchase of more assets. Regarding technical impact, it should be noted that training on bivoltine sericulture technology under the third country JICA training programs co-sponsored by CSB and JICA provided participants from Asian and African raw silk producing countries with useful knowledge and technologies.  This project has largely achieved its objectives, therefore its effectiveness is high.</p>
3 Efficiency
<p>(1) Outputs  As mentioned above, the outputs were produced as planned.</p> <p>(2) Elements of Inputs  The dispatching of Japanese experts and procurement of equipment was appropriate. Though there was a slight delay in equipping of buildings in the early stages of the Project and the replacement of some of the Indian C/P, inputs from Indian side were appropriate.</p> <p>(3) Project Cost, Period of Cooperation  The actual Project period was 60 months as planned. The actual Project cost was 624 million yen a compared to the planned cost of 730 million yen, lower than planned (equal to 85.4 % of the planned cost).  The inputs are appropriate for producing outputs and achieving the Project objective, therefore efficiency of the Project is high.</p>
4 Sustainability

(1) Related Policy towards the Project

The 11<sup>th</sup> Development Plan (2007~2012) specified further strengthening of the bivoltine sericulture extension. It is suggested in particular to replicate the experience of the Project. This involves large-scale bivoltine seed production supporting farmers with required infrastructure under the existing Catalytic Development Programme (CDP),

(2) Institutional and Operational Aspects of the Executive Agency

The number of CSB and DOS staff has decreased slightly since Project completion. Except for the AP State which drew attention to a lack of adequate staff at 3 TSC out of 6 and at 1 BSF out of 2. The number of other agency staff is considered to be sufficient for tasks on bivoltine sericulture. CSB and DOS hold meetings regularly on bivoltine sericulture to share information and decision-making. The structure of the executive agencies (CSB and DOS) as well as the coordination and linkage among them has been well maintained.

(3) Technical Aspects of the Executing Agency

From 2007 until the ex-post evaluation, a total of 773 TSC/STS staff personal have been trained in 7 training courses on bivoltine sericulture at the Central Sericulture Research and Training Institute (CSR & TI). CSB and DOS trained a total of 9,000 sericulture farmers on bivoltine sericulture in 3 target states. They conducted a variety of extension activities including group discussions, and film shows for which a total of 2,565 individuals participated. In addition, more than 10,000 sets of texts/manuals developed by the Project have been distributed to farmers and relevant organizations after the completion of the Project. In light of the above, technologies on bivoltine sericulture have been maintained by respective agencies and utilized by farmers.

(4) Financial Aspects of the Executive Agency.

There has been no particular problem in the financial aspects in bivoltine sericulture. The Ministry of Textile has allocated 15-16% of the total budget for sericulture development. The budget for CSB was 11,500 Rs in Lakh for the fiscal year 2007-2008 and it has increased by 10-70 % compared with the previous year. Regarding the DOS budget, KA state has maintained almost the same standard though it has sometimes fluctuated. TN state has increased its budget for bivoltine sericulture by 50-60 % from the previous years of 2007 and 2008. All the executing agencies acknowledged that the budget for bivoltine sericulture extension should be adequately funded.

(5) Continuity of Effectiveness and Impact

It can be evaluated that bivoltine sericulture extension system has been functional judging from succession of knowledge and techniques on bivoltine sericulture within the relevant organization and continued mass production of quality seed. The continuity of effectiveness and impact are documented in the increase in the number of bivoltine sericulture farmers after the completion, increasing from 3,704 in 2007 to 6,456 in 2009. It is also documented in the increase in the production of quality raw silk (above 2A level which increased from 6,534 dfls in 2006 to 7,073 dfls to 2009). In addition, the bivoltine cocoon transactions have largely increased through its expansion and decentralization in the target states. The transaction of bivoltine cocoon was executed in 4 markets by 2005, and has expanded to other markets since 2006, especially in the AP and TN states. The total transactions increased from 1,858t in 2005 in 4 markets to 5,056t in approximately 60 markets in 2009.

No major problems have been observed in the policy background, the structural, technical and financial aspects of the executing agency; therefore, sustainability of the Project effects is high.