

ENVIRONMENTAL REVIEW SUMMARY (ERS)

Project Name India: Mahindra Farms
Region India
Sector A-AJ - Other

Project No. 11230

01 April 2002

Project Description

Mahindra ShubhLabh Services Limited (MSSL) is a subsidiary of Mahindra & Mahindra Limited (the Sponsor or M&M), India's largest farm equipment company.

The objective of MSSL's business model is to improve farming profitability and sustainability by increasing agricultural yields, and reducing production costs and chemical pest control dependency. Current less-than-optimal production in India is attributable to the failure to integrate quality agriculture inputs, scientific farming techniques, mechanization, and finance. Indian farmers do not trust existing input distribution channels because of the prevalence of poor business practices and spurious products. The public extension system's reach is limited and the contribution of the private sector is typically motivated by the sale of specific products. MSSL's intention is to become an agent for change in Indian agriculture through an integrated approach that will provide unbiased solutions oriented to individual farmer success. Moreover, the project will benefit the health and well being of farmers and the environment by promoting integrated pest management (IPM), non-chemical methods and informed management of chemical products.

MSSL will develop 180 Agricultural Service Centers (ASC) over a period of 4 years, the majority of which (169) will be franchises. Each ASC system will consist of the hub ASC and a number of related kiosks (spokes). Each ASC will be able to provide farmers with: (i) appropriate inputs (seeds, fertilizers, chemicals); (ii) rental equipment; (iii) information (agronomic practices, market information); (iv) contractual farm-input-application and advisory services, and (v) access to crop finance from commercial banks all under a one-stop-shop concept.

Environmental and Social Issues

This is a Category B project, according to IFC's Environmental and Social Review procedure because a limited number of specific environmental and social impacts may result that can be avoided or mitigated by adhering to generally recognized performance standards, guidelines or design criteria. The review of this project consisted of appraising technical, environmental and social information submitted by MSSL. The following potential environmental, health and safety and social impacts of the project have been analyzed.

- MSSL Agricultural Service Center building site selection and planning;
- Qualifications of Farm Supervisors;
- MSSL Pesticide Management Policy and the ASC Pesticide Management Manual;
- Pesticides;
- Application of pesticides in Farm Solutions contracts;
- Occupational safety and health;
- Equipment design specifications and maintenance to ensure optimal performance;
- Disposal of wastes generated through operation or maintenance;
- Management of used pesticide containers;
- Code of conduct for Internet portal; and
- Environmental and social requirements for proposed franchises.

The following paragraphs provide a discussion of how each of these issues and potential impacts will be mitigated in the project.

1. MSSL ASCs building site selection and planning. MSSL constructed its two pilot joint-venture agricultural service center hubs on land purchased/leased from private landowners. Satellite “spoke” centers with Internet access have been established in rented shops located typically in rural market centers. MSSL franchisees and other joint-venture centers will follow this model for the proposed new 178 farm service centers. There are no current issues related to economic displacement or resettlement associated with the physical infrastructure of the project and none are anticipated as MSSL is committed to following this model for all proposed operations.
2. Qualifications of Farm Supervisors. MSSL Farm Supervisors are required to have suitable qualifications, preferably a B.Sc. in Agriculture or a related discipline, and suitable experience. During cropping seasons, Farm Supervisors conduct repeated field visits to each farm/farmer that has registered acreage with an ASC. Farm Supervisors provide technical advice at all stages of the agricultural cycle including seed selection and treatment, soil preparation, application of fertilizer, pest control techniques, weeding regimes and harvest and post-harvest practices. Farm Supervisors also assist farmers who visit the ASCs. Management of each ASC maintains close links with the State Agricultural Universities and research centers (e.g., the Tamil Nadu Agricultural University and the A.N.G. Rangarao Agricultural University). MSSL regularly consults with the faculty of these institutions to design crop production and improvement techniques while providing faculty and students with opportunities for applied research. ASC managers also work closely with government agricultural extension services to ensure that MSSL operations comply with government guidelines for acceptable agricultural practice.

3. MSSL Pesticide Management Policy and the ASC Pesticide Management Manual (PMM). MSSL management has endorsed a Pesticide Management Policy that supports integrated pest management and associated practices. A PMM has been prepared to translate policy into specific practices for each MSSL ASC. MSSL will establish a Pest and Pesticide Management Information Unit (PPMIU) to assist with implementation of the manual. The manual and procedures will be used to train MSSL staff in integrated pest management techniques, to solve common problems, be conversant with non-chemical and alternative chemical control methods and associated benefits, and to understand and be able to clearly communicate all protective measures required for chemical pesticide use. The PMM was originally developed for MSSL ASCs servicing paddy rice cultivation. MSSL ASCs will in future target other crops (e.g. cotton, sugarcane, groundnuts and maize) and agro climatic regions within India. In response to this MSSL will modify the manual to ensure a high level of applicability to target local crops and appropriate agricultural techniques.
4. Pesticides. Indian law allows retail sales of a range of pesticides including World Health Organization (WHO) class Ia and Ib. MSSL will phase out retail sales of WHO class Ia and Ib pesticides in accordance with the attached corrective action plan (CAP). The requirements of the CAP ensure that retail sale of class II materials will comply with the Pesticide Management Policy and Manual. Specifically, all retail sales will be accompanied by International Chemical Safety Cards (ICSCs), safety instructions in the local language and in English, and customers will be informed of mandatory safety requirements. To further promote safety of use informational posters will be conspicuous to the customers at all hubs and spokes. Moreover, MSSL will provide training for farmer groups, extension agents, and local applicators in safety, handling, and storage of pesticides through awareness campaigns, demonstrations, seminars, and village shows. MSSL will maintain depository bins at all hubs and spokes for the collection and safe disposal of empty pesticide containers.
5. Application of pesticides in farm service packages. ASC trained staff and spray men will be responsible for the handling, mixing and application of pesticides on farmlands under Farm Solutions contract arrangement. ASCs will ensure that only trained, adequately equipped and medically monitored operators apply such materials. All application, disposal, health, handling, training and record keeping activities will be carried out in strict compliance with the MSSL PMM.
6. Occupational Safety and Health. ASC managers will implement an occupational safety and health program for all employees and specialized training for pesticide applicators. Furthermore each ASC will maintain records of job-related accidents and illnesses and employ these data to fine tune employee training and protection programs.
7. Equipment design specifications and maintenance to ensure optimal performance. MSSL ASCs rent or use most conventional equipment available (e.g., tractors, non-

motorized peripherals, tillers, harrows, and cultivators). Mobile equipment air contaminants will be negligible. Each ASC center employs and/or engages a number of trained and experienced equipment operators responsible for the operation and maintenance of leased equipment. ASCs seek maximum returns on equipment leasing operation and thus rely on diligent equipment maintenance.

8. Disposal of wastes generated through operation or maintenance. Solid waste generated by the ASCs is minimal. Recyclable materials such as used office supplies and paper, fertilizer and seed bags and similar materials are sold to local scrap dealers for sorting and re-processing. Sanitary wastewater is routed to subsurface septic tanks and leach fields on the grounds of the service centers. Spent crankcase oil is stored in barrels and sold to collectors for reuse/recycle.
9. Management of used pesticide containers. Waste pesticide containers resulting from Farm Solution activities will be triple rinsed and residues (water or solvents) will be combined with spray solutions for application to the fields. ASCs will provide clearly visible, tamper proof collection points for used pesticide containers to facilitate environmentally safe disposal services. ASC's will either recycle the containers or otherwise ensure proper, safe disposal.
10. Code of conduct for Internet portal. MSSL's Internet portal, which is accessible to farmers at hubs and spokes, is a proprietary URL that contains information dedicated to crop production. The information services, which are customized for the constituency of each agricultural service center, include commodity pricing, crop production regimes, weather, irrigation water release timings and location of agricultural services such as cold storage and processing facilities. MSSL controls all the content of its portal. MSSL service agreements are consistent with IFC requirements for this type of project.
11. Environmental and social requirements for proposed franchises. MSSL will modify its joint venture and Franchise Agreements to ensure that each of the joint venture and franchise ASCs is operated in accordance with the environmental measures discussed above. MSSL has agreed to a Corrective Action Plan (CAP) that delineates the various measures to be taken to ensure safe handling of pesticides (attached).
12. Based on its review of available information regarding potential environmental and social impacts and proposed mitigation measures incorporated into the Corrective Action Plan, IFC concludes that the proposed project is being designed to meet Indian government regulatory requirements and IFC policies and guidelines. Environmental and social clearance is therefore provided for this investment.
13. IFC will monitor compliance with Indian regulatory and WBG policies and guidelines and CAP requirements during the life of the project. MSSL will submit biannual (November and June) post-season environmental monitoring reports to IFC. MSSL will arrange third-party audits of ASC compliance with the MSSL Pesticide Management Manual. The first audit will occur eighteen months after IFC

subscription. Subsequent audits will occur every other year thereafter. IFC will evaluate these monitoring reports and elicit the elaboration of remedial measures as needed to maintain compliance. Additionally, IFC will conduct periodic site reviews during project supervision.

MSSL ENVIRONMENTAL AND SOCIAL CORRECTIVE ACTION PLAN (CAP)

| # | Task Description | Indicator that task has been achieved | Required Completion Date |
|----|--|---|--|
| 1 | MSSL corporate management will approve the Pesticide Management Policy, will endorse incorporation of the Policy into Pesticide Management Manual prepared for all ASCs, and establish the Pest and Pesticide Information Management Unit (as addressed in the manual) to promote corporation-wide (all ASCs) implementation of the policy and the manual. | MSSL senior management endorses the Policy, establishes the Pest and Pesticides Information Management Unit | As a condition of IFC subscription |
| 2. | Eliminate retail sales of WHO class Ia pesticides in all ASCs. | Report of progress in post-seasonal reports and management certification of completion of phase out. | Twelve (12) months after subscription agreement with IFC |
| 3. | Eliminate retail sales of WHO class Ib pesticides in all ASCs. | Report of progress in post-seasonal reports and management certification of completion of phase out. | Eighteen (18) months after the Subscription Agreement with IFC |
| 4 | Modify ASC Franchise Agreement contracts to require each joint venture and/or franchise-operated ASC to adhere to the requirements of the MSSL Pesticide | Submit copies of specimen agreements for IFC legal department review. | As a condition of IFC subscription. |

| # | Task Description | Indicator that task has been achieved | Required Completion Date |
|----|--|--|--|
| | Management Manual. | | |
| 5. | <p>For franchise/joint-venture ASCs for which the Franchise Agreement was signed prior to the Subscription Agreement with IFC, the following tasks must be completed.</p> <ol style="list-style-type: none"> a. Modify MSSL Pesticide Management Manual for new target crops. b. Translate MSSL Pesticide Management Manual (PMM) into local language for each ASC. c. Train employees and contractors in accordance with the Pesticide Management Manual. d. Provide baseline medical examination and maintain records for spray men. | Report of progress in post-seasonal reports and PPMIU certification of completion. | Twelve months after the date of the IFC Subscription Agreement |
| 6. | <p>For franchise ASCs for which the Franchise Agreements are signed after the Subscription Agreement with IFC, the following tasks must be completed prior to commencement of operations.</p> <ol style="list-style-type: none"> a. Modify MSSL Pesticide Management Manual for new target crops. b. Translate MSSL Pesticide Management Manual (PMM) into local language. | Report of progress in post-seasonal reports and PPMIU certification of completion. | As a condition of commencement of operations at each ASC |

| # | Task Description | Indicator that task has been achieved | Required Completion Date |
|---|--|---------------------------------------|--------------------------|
| | c. Train employees and contractors as described in the Pesticide Management Manual; d. Provide baseline medical examination and maintain records for spray men. | | |

Robert B. Horner
 M:\Environment Files\Mainstream Projects\India\Mahindra Farms-11230\Appraisal\ERS Activity\India Mahindra Farms 11230 ERS rev12.doc
 April 1, 2002 5:20 PM