IEG
Independent Evaluation Group

1. Project Data:

<table>
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<tr>
<th>PROJ ID</th>
<th>Date Posted</th>
<th>Appraisal</th>
<th>Actual</th>
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<tr>
<td>P010511</td>
<td>9/25/2006</td>
<td>203.8</td>
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<tr>
<th>Project Name</th>
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<th>Loan/Credit (US$M)</th>
<th>Cofinancing (US$M)</th>
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<td>164.8</td>
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<table>
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<tbody>
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<table>
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<tr>
<th>Partners involved</th>
<th>Evaluator</th>
<th>Panel Reviewer</th>
<th>Division Manager</th>
<th>Division</th>
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<tr>
<td></td>
<td>Denise A. Vaillancourt</td>
<td>Martha Ainsworth</td>
<td>Alain A. Barbu</td>
<td>EGSG</td>
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2. Project Objectives and Components

a. Objectives

The objective of the IDA credit was to help India create an enhanced and more effective malaria control program that uses a better mix of effective malaria control interventions responsive to local needs; and strengthens the Directorate of the National Malaria Eradication Program (NMP) and modifies its orientation. The project objectives were not revised during project implementation. The project was, however, restructured in December 2004 to contribute to global polio eradication (see additional component below).

b. Components (or Key Conditions in the case of Adjustment Loans):

Project support would be channeled to national level (institutional strengthening component only), and (all components) to eight selected states, within which 100 districts would be supported. The eight states covered under the project are: Andhra Pradesh, Jharkhand, Gujarat, Madhya Pradesh, Chhattisgarh, Maharashtra, Orissa, Rajasthan. Estimated costs of components presented below include contingencies.

(a) Integrated Early Detection and Prompt Treatment of Clinical Cases (estimated cost: $44.7 million, 22% of total; actual cost: $38.6 million, 30% of total): improve the quality and accessibility of malaria treatment at primary health units, and in the private sector improve the speed and accuracy of diagnosis of malaria cases, and the treatment of severe malaria. IDA was to finance drugs, laboratory supplies and equipment, training and incremental salaries.

(b) Selective Vector Control (estimated cost: $81.2 million, 40% of total; actual cost: $58.9 million, 46% of total): replace widespread indoor residual spraying with more targeted spraying of insecticides determined by epidemiological stratification by village, increase the use of non-insecticide vector control methods, such as larvivorous fish and biolarvicides, and shift the selection of insecticides towards more environmentally neutral options. IDA was to finance selected insecticides, vehicles, equipment, training, consultant services, and operational research.

(c) Medicated Mosquito Net Program (estimated cost: $23.4 million, 11% of total; actual cost: $8.0 million, 6% of total): increase the use of medicated mosquito nets through grassroots organizations, social marketing groups, and public distribution, including local production and distribution. IDA was to finance medicated mosquito nets, insecticides, NGO services and operational research.

(d) Epidemic Response and Intersectoral Collaboration (estimated cost: $19.5 million, 10% of total; actual cost: $2.6 million, 2% of total): This component was designed to strengthen regional offices to identify and control outbreaks and epidemics, monitor resistance, build intersectoral collaboration among national ministries, identify malaria sources from industrial construction or projects, conduct health assessment studies and provide training and malaria control guidelines to industries. IDA was to finance insecticides, vehicles, equipment, surveillance, research and training.

(e) Institutional Strengthening (estimated cost, including contingencies: $35.1 million or 17% of total cost; actual cost: $21.2 million or 16% of total cost): This component was designed to improve management and planning skills of state and district level staff, provide training in new skills such as social assessment, create and disseminate an IEC program, support high-quality operational research, prepare future project components and improve management and information systems (MIS). IDA was to finance civil works, vehicles, a MIS, a geographic
information system (GIS), IEC, training, research studies and incremental salaries.

c. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Actual costs ($129.3 million) were 63% of estimated costs ($203.8 million). The credit was suspended briefly in June 2002 to address delays in disbursements and program implementation, and, at GoI’s request, approximately $46.5 million was cancelled from the credit (after removal of civil works and Urban Malaria Scheme from the project at the time of the MTR). Neither the PAD nor the ICR presents the estimated costs of these two activities (specifically, construction of a National Directorate for Malaria, and support of malaria control activities in 19 towns). In 2004 $10 million of the IDA credit was allocated to another IDA-financed project for a Polio Eradication Program, and an additional US$4.7 million of credit proceeds was allocated for Polio in October 2005. Actual Government counterpart financing ($15.5 million) was 40% of the amount originally planned ($39.0 million), and about half the planned share of total project cost (12% of actual cost vs. 24% of estimated cost, estimated at appraisal). Project implementation, originally scheduled for 5 years, took 8 years to complete. The closing date was extended four times. Of the initial credit amount of 119.2 million SDR, 33.1 million (28%) was cancelled, 82.5 million (69%) was disbursed, and 3.6 million (3%) remained undisbursed at the end of the project.

3. Relevance of Objectives & Design:

Overall relevance of the project was substantial.

Objectives. The project’s objectives are supportive of Government policy and strategy for malaria control and of (a) the CAS, which is supporting GoI in promoting economic growth through private sector involvement and the development of human capital resources; and (b) the Bank’s assistance strategy for India’s health sector that aims to (i) reduce the burden of disease by supporting cost-effective priority programs and (ii) strengthen health systems and promote health reform, for more efficient and effective health care, especially for the poor.

Design. The technical design of the project was based on lessons learned from previous malaria control projects and on extensive interaction with international organizations (e.g., WHO). Implementation issues were not sufficiently addressed in project design. The institutional and procurement capacity of the Ministry of Health and Family Welfare (MoHFW) and of the National Anti-Malaria Program (NAMP) were particularly underestimated, which contributed to stagnation of project implementation for several years. The financial package was ultimately considered too large to ensure full disbursement of the credit by the end of the project period.

4. Achievement of Objectives (Efficacy):

Overall achievement of objectives was substantial.

Evidence on morbidity due to malaria shows that it is declining much more rapidly in project states than in non-project states, which is indicative of an enhanced and more effective malaria control program.

- According to GoI surveillance data, impressive progress has been achieved in reducing malaria morbidity in project supported districts (100) within the 8 project states. In 2004 approximately 650 malaria cases were reported in the 1045 project primary health care centers, which represents a 45% decline since 1997. At an aggregated state level, by the project mid-term (2001), the average decline in case-load in project and non-project states was similar, ranging around 25%. However, from 2001-05, a much steeper decline was noted in project states (25%), compared to non-project states (1%).

- Stabilization of “fatal malaria” (P. Falciparum) has occurred with the number of reported cases dropping from 700,000 to 400,000. However, there has been a slight rise in P. Falciparum as a percentage of total cases over the project period (58% to 61.5%). (Project target was to stabilize P. Falciparum as a percentage of total malaria cases at less than 50%). Recent trends in P. Falciparum as a percentage of total cases in some states (e.g., Gujarat) are worrying and underscore the importance of strengthened surveillance and response to ensure prompt and effective treatment.

Declines in case-loads and in the number of reported cases of “fatal malaria” in the project states can be attributed to substantial project investments aimed at achieving a better mix of effective anti-malarial interventions and at strengthening and reorienting the National Anti-Malaria Program (NAMP), culminating in the following outputs:

Better mix of effective anti-malarial interventions

In summary, the program has been successful in shifting emphasis from indoor residual spraying (IRS) to a broader mix of effective and environmentally friendly interventions, notably: (i) early detection and prompt treatment of malaria cases; (ii) use of insecticide-treated bednets; and (iii) more targeted and strategic spraying, as noted below. Project states have increased expenditures on non-IRS activities, which now comprise about 75% of total malaria budgets, exceeding the project target of 40%. Exposure to IEC (below 30%) messages is lower than the project target of 50%, and recall of poster content, while improved, is still very low (below 10%) in certain states.

- Regarding access to diagnosis and treatment of malaria in public sector districts, the number of workers increased from 200,000 in 1997 to 500,000 in 2006 across the country including project districts. On average nearly 100 million blood slides are collected annually. Treatment quality and compliance and diagnostic access
in remote and hard-to-reach areas have all improved. However, lack of monitoring indicators leave open to question whether diagnosis is made early and treatment is complete. The project has been less successful in improving the quality and accessibility of malaria treatment and surveillance in the private sector.

- Approximately 10 million insecticide treated bed nets (ITNs) have been procured for project districts between 1998 and 2005, enough to cover approximately 17% of the high risk populations. Baseline data are not cited in the PAD or ICR. However, coverage is variable across and within states (6.9% in Rajasthan to 50.9% in Orissa). Use of the private sector (both for- and not-for-profit) was underexploited. Mosquito nets were publicly distributed rather than through conventional social marketing mechanisms. Social marketing was not carried out as planned.

- The project has been successful in replacing widespread IRS with targeted spraying and increasing the use of non-insecticide vector control methods. Use of IRS continues to decline in project districts; less than 25 million people were covered in 2004, or 51% less than in 1997 (when 49 million people were covered), reflecting a much higher degree of targeting, as opposed to more widespread IRS, as had been common. Use of non-insecticide vector control methods, such as larvivorous fish, has increased in the project, with 21,180 district-level fish hatcheries established. As with other components, lack of process indicators makes it difficult to assess effective coverage or to make mid-course corrections.

**Strengthened and reoriented National Anti-Malaria Program (NAMP)**

- **At the national level**, technical leadership, capacity for program reviews and monitoring of state plans have been strengthened. Program guidelines have been developed and disseminated to the states. A shift in emphasis from eradication to the control of malaria has occurred as has a more integrated approach to vector management more broadly. The Directorate in charge of Malaria is stronger and its staff multidisciplinary.

- **At the state and district level**, capacity building for planning and budgeting has generally improved, but decentralized program planning and decision-making is in need of further strengthening, constrained primarily by vacancies of critical program staff. All states and most districts in project area prepared annual plans. All 100 project districts submitted district action plans in 2005. However, significant variability in quality and comprehensiveness of state and (in particular) district plans reveal the need for more strategic focus on higher burden areas, unreached groups, and optimal use of available resources. It appears that annual work plans are limited to project inputs rather than comprehensive plans that include all activities for malaria, irrespective of sources of financing. Plans are more standardized than evidence based. The introduction of annual program reviews has also helped to guide, strengthen and monitor decentralized activity. 70% of project districts use the national malaria information system.

- There is evidence of increased inter-departmental and intersectoral collaboration. For example, treatment of malaria is being integrated with the Integrated Management of Nutrition and Childhood Illness Program (of MoH). Evolving partnerships with the private corporate sector, NGOs, CBOs and FBOs were cited in the ICR, although the potential for such partnerships is seen to be underexploited. Collaboration with other sectors was found to be stronger at the district levels, including, among others, with the Ministries of Agriculture and Tourism. Strengthened partnership between the NAMP and research institutions have taken hold to provide supportive supervision more systematically.

- Data from field visits in Gujurat and Orissa seem to indicate that approximately 40-50% of staff are trained in epidemiological and management skills (vs. an end-of-project target of 100%). The Borrower ICR indicates approximately 6203 training courses were conducted and 169,823 people were trained between 1997 and 2005 under the project.

- Against a target of five, the NAMP hired five multi-disciplinary (non-entomological) staff by the project's end: three social anthropologists, an IEC specialist and a finance officer.

**5. Efficiency**

Overall efficiency is modest, but expected to increase as states and districts build their capacity for evidence-based planning and reviews. The project was efficient in its design, aiming for the optimal technical mix of interventions and improved targeting to the geographic regions and populations most at risk. Serious inefficiencies in implementation are due to a learning process at the state and district levels as planning becomes more local and evidence-based. The first three years were consumed by institutional strengthening essential for implementation of the project, while the latter four were spent on implementation. Bottlenecks that brought the project to a standstill during the first three years could have been foreseen and mitigation measures should have been in place prior to effectiveness. Staff vacancies (malaria supervisors, male-multipurpose workers and entomologists) and time pressures contribute to a lack of supervision and monitoring of insecticide efficacy. Suboptimal use of the non-governmental sector and inefficient procurement undermined efficiency in the distribution, marketing and efficacy of bednets.

**6. M&E Design, Implementation, & Utilization:**

**Design.** The program had a focus on structured, annual program development reviews. Key indicators, for which
Baseline data and mid-project and end-of-project targets had been quantified, were chosen jointly with Government. Monitoring and evaluation arrangements included the following tasks:

- Routine data would be collected by the NMP from all districts every month.
- State malaria control officers would submit every quarter key monitoring and performance indicators in their regions to NMP, and one staff at NMP would be assigned responsibility for each of the agreed set of indicators.
- An independent external agency would review NMP management administrative functions in the 2nd or 3rd year of implementation. The NMP would also receive qualitative feedback from local malaria societies and from information consultations with Panchayat Raj institutions (or village councils).

Some indicators were not appropriate for measuring progress and means of verification were not sufficiently explicit. Implementation. A number of indicators were not regularly monitored and recorded, particularly on output and outcome indicators, due in part to understaffing, inadequate financing and absence of Bank rigor in monitoring performance indicators.

7. Other (Safeguards, Fiduciary, Unintended Impacts--Positive & Negative):

<table>
<thead>
<tr>
<th>8. Ratings:</th>
<th>ICR</th>
<th>ICR Review</th>
<th>Reason for Disagreement /Comments</th>
</tr>
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<tbody>
<tr>
<td><strong>Outcome:</strong></td>
<td>Satisfactory</td>
<td>Moderately Satisfactory</td>
<td>[The ICR's 4-point scale did not allow a &quot;moderately sat.&quot; rating]. Relevance of project objectives and design was <strong>substantial</strong>, although some implementation issues were not sufficiently addressed in project design (see Section 3). Efficacy was <strong>substantial</strong>, albeit with some shortcomings, including: unexploited potential of the non-governmental sector in the distribution and social marketing of ITNs; underachievement of targets for staff training/capacity in epidemiology and management; and failure to stabilize &quot;fatal malaria&quot; at 50% of all reported cases (see Section 4). Efficiency was <strong>modest</strong> due in part to implementation bottlenecks during the first three years of project implementation and staff vacancies (see Section 5).</td>
</tr>
<tr>
<td><strong>Institutional Dev.</strong></td>
<td>Substantial</td>
<td>Substantial</td>
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<tr>
<td><strong>Sustainability</strong></td>
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<td><strong>Bank Performance</strong></td>
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<td>Satisfactory</td>
<td>Bank's preparation was strong on the technical side, but weak with regard to implementation arrangements.</td>
</tr>
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<td><strong>Borrower Perf.</strong></td>
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<tr>
<td><strong>Quality of ICR</strong></td>
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**NOTES:**
- When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.
- ICR rating values flagged with ‘*’ don’t comply with OP/BP 13.55, but are listed for completeness.

9. Lessons:

- Projects should be more realistic in setting development objectives and in defining the credit size based on a more rigorous analysis of the institutional and financial capacity of the Borrower.
- Future efforts should include much more extensive and realistic development of agreed - upon indicators and results monitoring arrangements that can be of greater use for both the Borrower and the Bank for recurrent program decision-making, backed up by the resources and commitment to make them work.
- In the context of a decentralized program, nurturing ownership of states and strengthening program management capacity at district and state levels is essential for program success.
- Future efforts should have a stronger focus on private sector both for service coverage and for more accurate surveillance.
- Surveillance for drug resistance could be substantially strengthened, and as resistance to CQ expands, GoI
should accelerate expansions with ACTs. Action to ensure that effective treatments are made available in line with documented resistance and transmission patterns.

- Experience with state-level entities for disease control in India (e.g. for HIV/AIDS) might have been taken into account, along with malaria experiences in other countries. This might have accelerated the move towards state-level malaria societies that would reduce the bureaucracies of state-level institutions.

10. Assessment Recommended? ☑ Yes ☐ No

   Why? This project supports a high-profile single disease program and is one of the largest financed by the Bank. An assessment would contribute to understanding the links between vertical disease programs and the rest of the health system and would also be relevant to the Bank’s recent efforts to step up its support to malaria control through the Malaria Booster Program.

11. Comments on Quality of ICR:

   The ICR is systematic in its analysis, providing the evidence against which achievements are measured. It also assesses shortfalls in project performance and provides technical and strategic advice for further improvements to program efficiency and efficacy. A few (major) weaknesses of this ICR include:

   - Planned financing (p. 33, Annex 2) does not match original financing estimates (for IDA and Government) presented in the PAD. There is also a discrepancy between actual expenditure data presented in the text (p. 17) and in Annex 2.
   - The ICR reports that the IDA credit (after cancellations and reallocations made during implementation) was fully disbursed, whereas disbursement data in the Bank’s system indicates that some 3.6 million SDRs were undisbursed at the project’s closing.
   - The ICR shows discrepancies in data on ITNs. On page 12, it is noted that 10 million ITNs have been supplied through the project, translating into an estimated coverage of 17% of the high-risk population, whereas on p. 12 the coverage is noted to be 21%. Furthermore, data in Annex 1 indicate a total of 8.3 million ITNs (instead of the 10 million reported in the main text).
   - The low effective coverage of IEC, quantified in Annex 1, is not mentioned in the text, although it would warrant discussion.