

Access to Quality Medicines and other Technologies Task Force

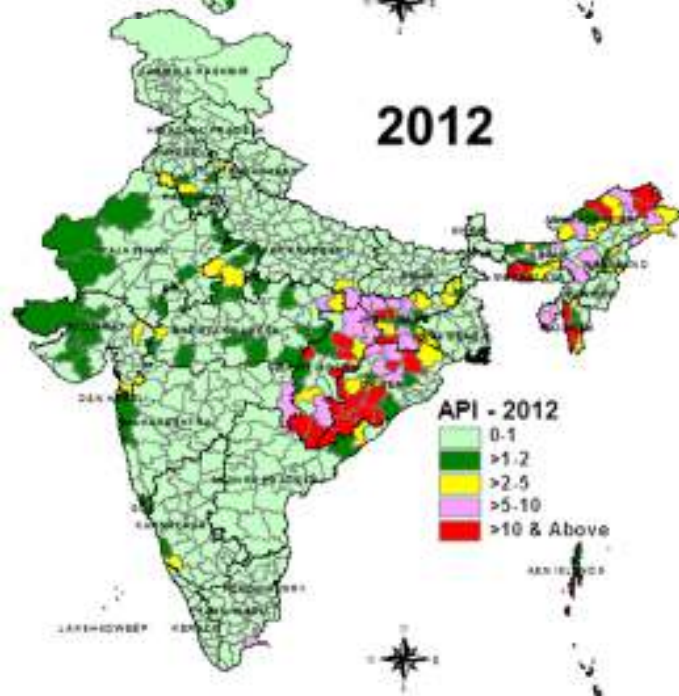
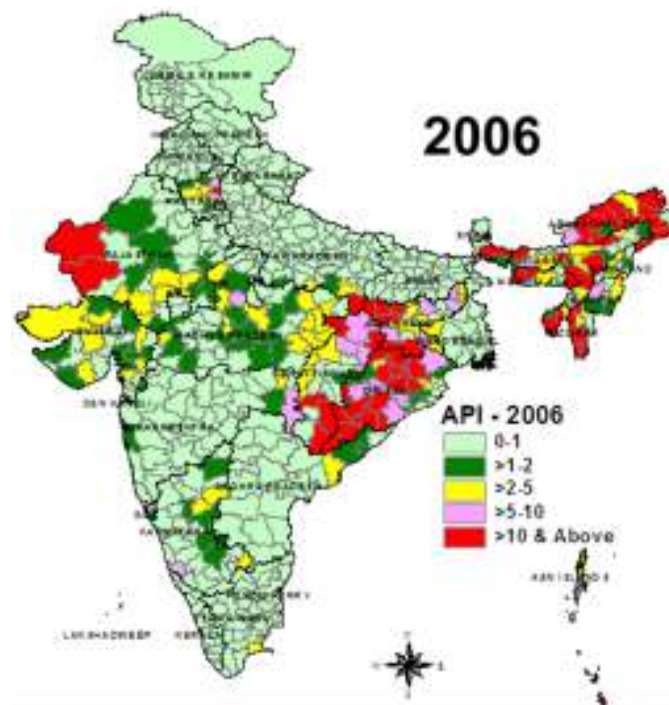
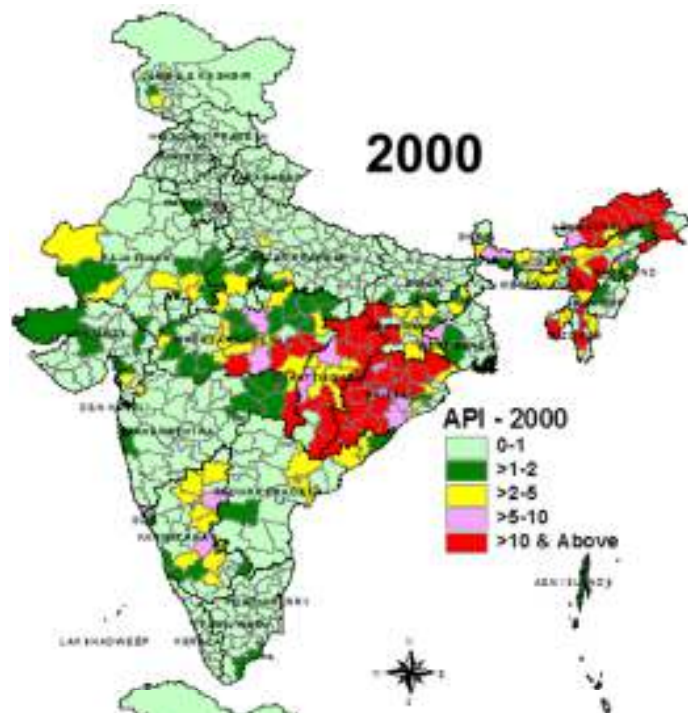
**Meeting of the Asia Pacific Leaders Malaria Alliance
March 12-13, 2014**

**Anshu Prakash
Ministry of Health and Family Welfare
Government of India**

India: Profile

- **1210 million population (2011 census)**
- **36 States/ UTs with average 32 Million population (range: 0.06 to 191 million)**
- **Malaria (2012)**
 - **API: 1.06/1000**
 - **Reported cases: 1.06 million**
 - **Pv cases 534129; Pf cases 524370**
 - **Reported deaths: 519**

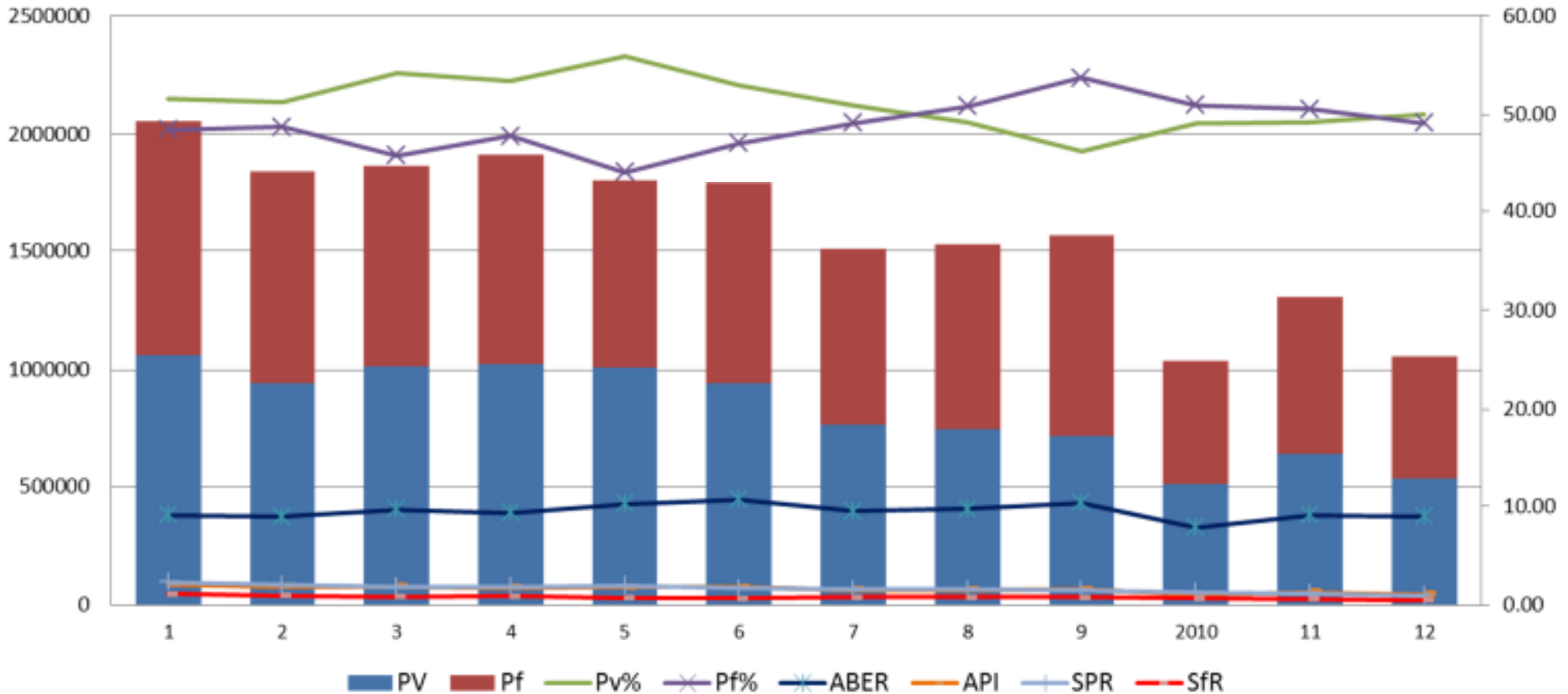
Shrinking – Malaria Map- India



Stratification of Districts based on API				
API	2000		2012	
	No.	%	No:	%
>10	59	10	32	4.9
>5-10	22	3.7	29	4.4
>2-5	65	11.14	48	7.3
1-2	72	12.2	58	8.8
<1	370	63	492	74.7

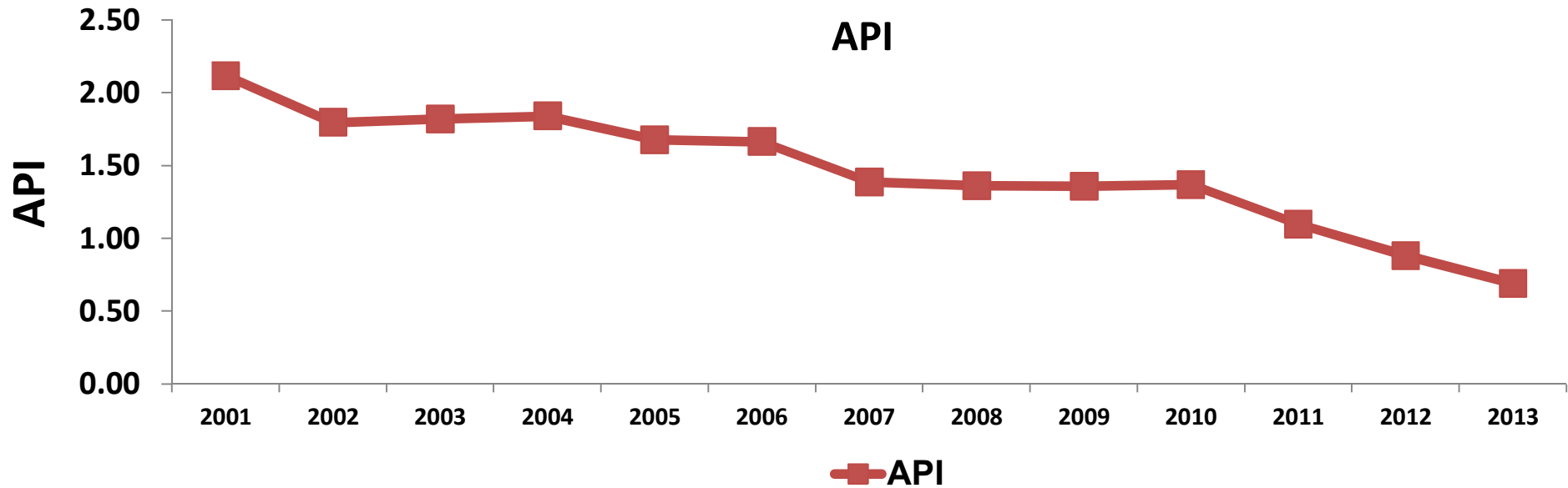
Malaria in India (2001-2012)

Malaria in India

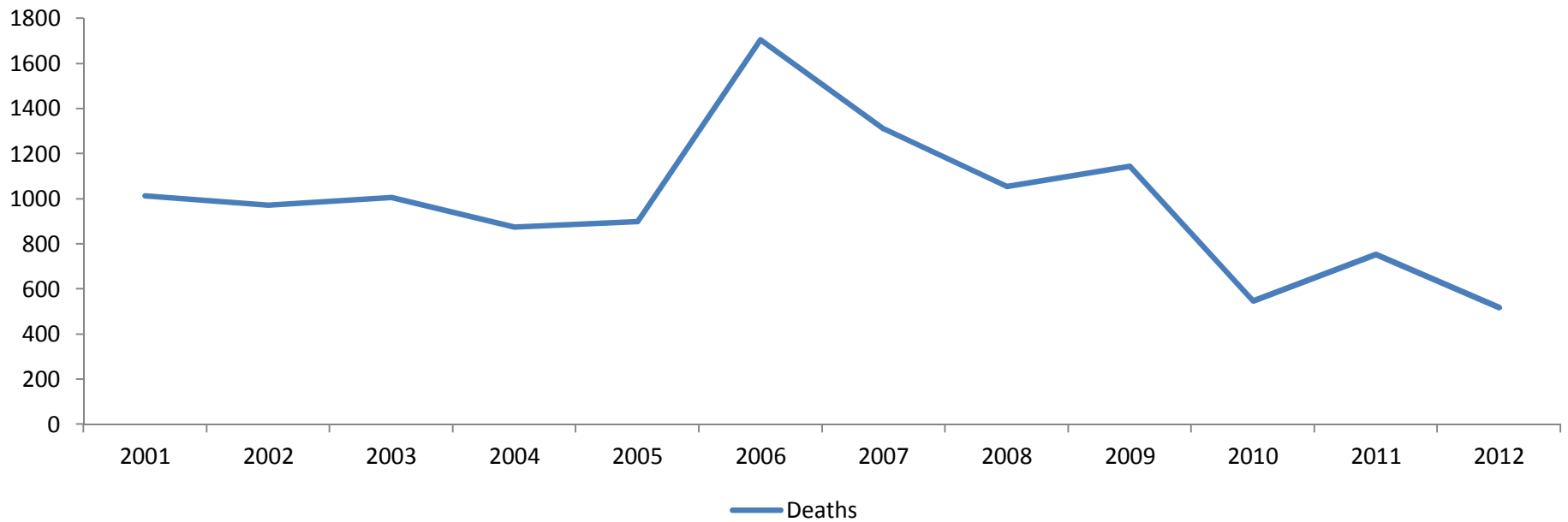


India reports about One million malaria cases annually

Decline in API and malaria deaths



Declining trend of malaria deaths in India



Antimalarial commodities

- Nation wide coverage
- Free of cost in public sector

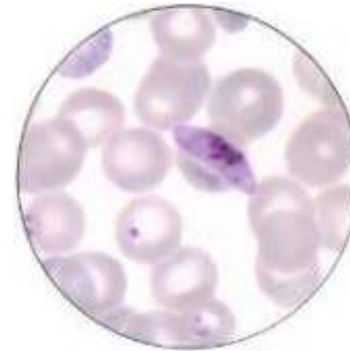
Diagnosis	Treatment	Vector Control																																				
<p data-bbox="336 698 556 738">Microscopy</p> 	<p data-bbox="861 698 1207 738">National Drug Policy</p> 	<p data-bbox="1585 690 1827 722">Larval Control</p> 																																				
<p data-bbox="388 1193 472 1234">RDT</p> <table border="1" data-bbox="241 1250 625 1453"><tr><td colspan="6">Negative</td></tr><tr><td>C</td><td>□</td><td>□</td><td>T</td><td>A</td><td>○</td></tr><tr><td>B</td><td>□</td><td>□</td><td>□</td><td>□</td><td>□</td></tr><tr><td colspan="6">Positive</td></tr><tr><td>C</td><td>□</td><td>□</td><td>□</td><td>□</td><td>□</td></tr><tr><td>B</td><td>□</td><td>□</td><td>□</td><td>□</td><td>□</td></tr></table>	Negative						C	□	□	T	A	○	B	□	□	□	□	□	Positive						C	□	□	□	□	□	B	□	□	□	□	□		<p data-bbox="1501 1112 1585 1153">IRS</p>  <p data-bbox="1816 1112 1900 1153">ITN</p> 
Negative																																						
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Diagnosis of malaria

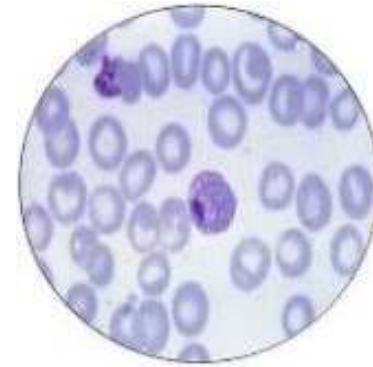
- **Microscopy**

- At decentralised laboratories by trained technicians (~30000 labs in public sector)
- 95 million slides examined in 2012
- Results within 24 hours
- Cost to government (including operational cost): about 0.6 USD/test

P.falciparum



P.vivax



- **RDT**

- Introduced in 2004
- Monovalent (Pf only) RDTs till 2012
- Bivalent RDTs (Pf and Pv) since 2013
- Sensitivity >95% (Pf), >90% (Pv)
- Specificity >98%
- 14 million tests in 2012
- Cost to government (including operational cost): about 0.8 USD/test



Treatment of malaria: National Drug Policy

- All fever cases should preferably be investigated for malaria by microscopy or RDT
- *P. falciparum*
 - ACT first line antimalarial
 - Artesunate+SP all over India except NE states
 - Decision to introduce artemether lumefantrine in NE states
 - ACT also in 2nd and 3rd trimester of pregnancy and quinine in 1st trimester
 - Primaquine single dose as gametocytocidal
- *P. vivax*
 - Chloroquine 3 days + Primaquine for 14 days
 - Injectable artesunate/quinine for severe malaria
 - Centralized and decentralized procurement



QA of diagnostics/medicines

QA of microscopy

- **Cross checking of all positive and 5% negative slides**
- **At state laboratories and Regional Offices for Health & FW**

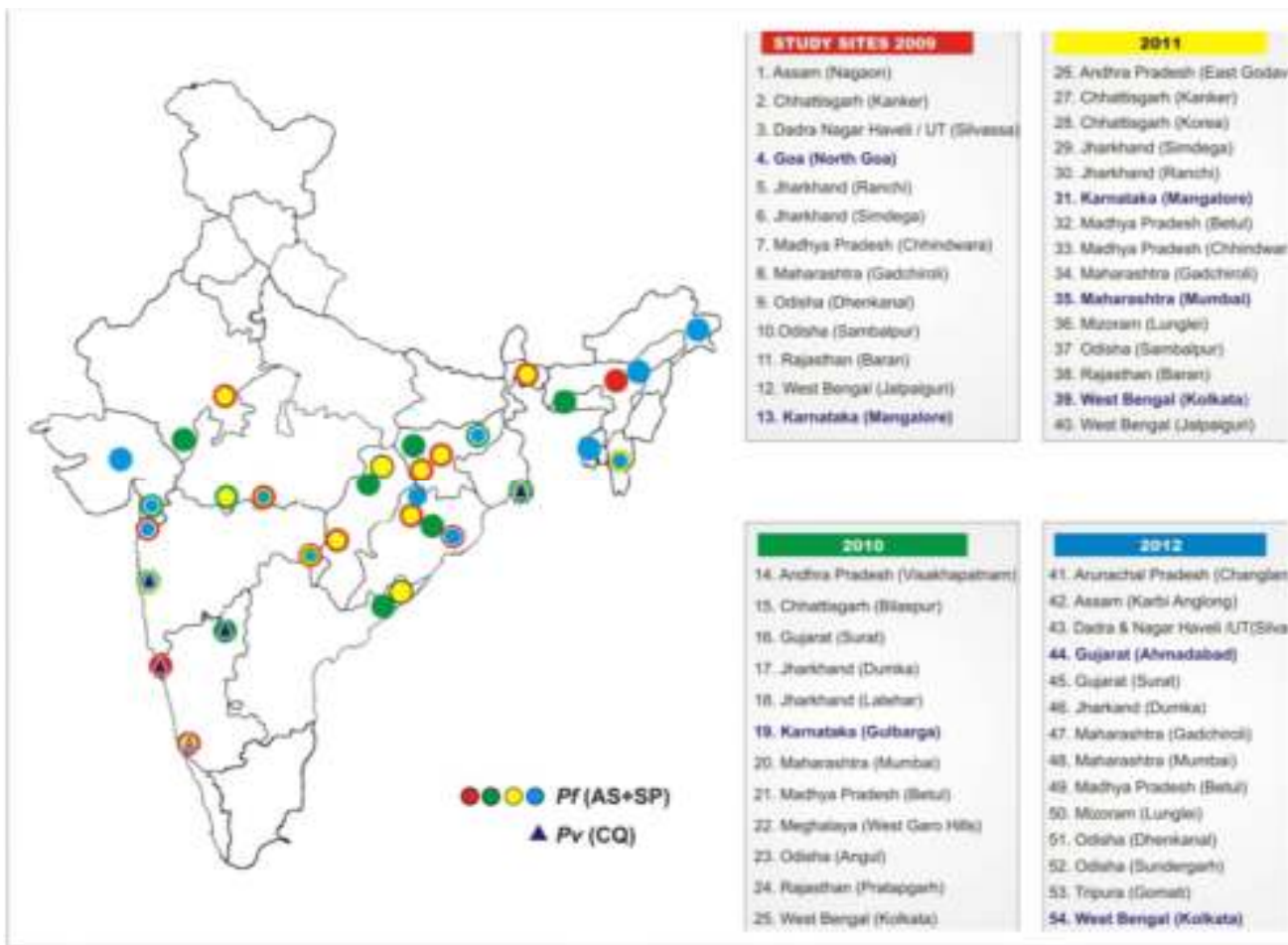
QA of RDTs

- **Assess quality of RDTs procured and supplied by NVBDCP to various health facilities including ASHAs.**
- **Pre-dispatch QA and Post- dispatch QA to assess the quality of RDTs**

QA of antimalarials

- **CDSCO responsible for regulation of medicines**
- **QA/QC at the time of procurement**

Monitoring antimalarial drug resistance



- Therapeutic efficacy studies at 15 sites each year
- 70 patients at each site enrolled
- Provide evidence to change drug policy
- Policies based on the results
- NIMR and NVBDCP

Integrated Vector Management

- Indoor Residual Spraying in selected high risk areas
 - DDT: 5000 metric tons/yr
 - Malathion: 10000 metric tons/yr
 - Synthetic pyrethroids: 1200 metric tons/yr
- Use of LLINs in areas with $API > 2$
 - > 12 million LLINs distributed by government
- Anti larval measures in urban areas
 - Larvicide e.g. temephos
 - Biological control e.g. Larvivorous fish, BTi
- Source reduction: Minor environmental engineering



NVBDCP: Review mechanisms

- **National Vector Borne Disease Control Programme implemented all over india**
- **Regular monitoring by Government of India**
- **Independent monitoring and evaluation by Joint Monitoring Mission once in 3 years**
- **Review by World Bank, Global Fund, WHO and other stakeholders**
- **Guided by DGHS, Technical Advisory Committee and expert committees to take decisions on policies**
- **Regular interaction with WHO and other international organisations**

Challenges to malaria control

- **Challenges in Diagnosis**
 - Sensitivity of RDTs
 - Turnaround time for microscopy reports
- **Changing patterns of Malaria**
- **Challenges in Treatment**
 - Artemisinin monotherapy (injectables used for uncomplicated malaria)
 - Drug resistance
 - Private sector treatment practices
- **Challenges in Vector Control**
 - Poor acceptance of indoor residual spray
- **Lack of effective vaccine**
- **Access to healthcare delivery system**
- **Supply chain management**

NVBDCP: Recent steps for malaria control

- **Point of Care management: ASHAs**
- **Introduction of bivalent RDTs**
- **Evidence based policy changes**
 - **Drug Policy**
 - **Insecticide policy**
- **Banning oral artemisinin monotherapy (2009)**
- **Operational research**
 - **Monitoring antimalarial drug resistance**
 - **Monitoring insecticide resistance**
 - **Testing new products**
 - **Antimalarials**
 - **Diagnostics**
 - **Vector control tools**
 - **QA of medicines/diagnostics also undertaken by ICMR institutes**

The way forward

- **To bring down API to <1 by 2017 (as per 12th FYP) in all districts**
- **To halt and reverse the incidence of malaria by 2015 (MDG)**

THANKS