NVBDCP

BY

DR. M. SIVA DURGAPRASAD NAYAK, MD, PHD

ASSISTANT PROFESSOR,

DEPARTMENT OF COMMUNITY MEDICINE

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INTRODUCTION

- “Let’s warm up with a quick quiz!
- **Q1**: Which tiny creature kills the most humans every year?

  A) Snake 🐍

  B) Dog 🐕

  C) Mosquito 🦟
- **Answer: C) Mosquito** 🦟

INTRODUCTION

- **Q2**: Can one mosquito spread multiple diseases?
  Answer: Yes
- **Explanation**:
  Yes, one mosquito **species** can transmit multiple diseases:
  - **Aedes aegypti** → transmits **dengue**, **chikungunya**, **Zika virus**, and **yellow fever**.
  - **Culex** species → can transmit **Japanese encephalitis** and **West Nile virus**.
  - **Anopheles** mosquitoes → transmit **malaria**.

INTRODUCTION

- Then how to control mosquito born diseases

- **Answer is National Vector Born Disease Control Program**

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National Center for Vector Borne Diseases Control

Directorate General of Health Services
Ministry of Health & Family Welfare, Government of India

राष्ट्रीय वैक्टर जनित रोग नियंत्रण कार्यक्रम NVBDCP

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#IITF2024 के स्वास्थ्य पवेलियन में NCVBDC द्वारा मलेरिया, डेंगू और अन्य वेक्टर जनित रोगों की रोकथाम पर जागरूकता बढ़ाने के लिए नुक्कड़ नाटक, मच्छरों का जीवन चक्र, बीमारियाँ और Spin & Win जैसी गतिविधियाँ आयोजित की गई हैं। अधिक जानकारी के लिए NCVBDC के स्टाल पर पधारें। #OneHealth

News & Highlights

Date :23/02/2022)

- BCC/IEC Tools for Bihar, Jharkhand, UP and WB for Kala-azar (Release Date :14/07/2021)
- Monthly Malaria Information System (MMIS) (Release Date :05/02/2021)
- KAMIS Mobile App (Release Date :18/01/2021)
- Mosquito and other Vector Control Response (MVCR) 2020 (Release Date :20/11/2020)
- National Guideline for Dengue case management during COVID-19 pandemic (Release Date :29/10/2020)

- Time Line of NVBDCP

WHY NVBDCP

- ✅ 1. Common Vector & Transmission Mode
- ✅ 2. Integrated Surveillance & Diagnosis
- ✅ 3. Cost-Effectiveness & Resource Optimization
- ✅ 4. Better Inter-sectoral Coordination
- ✅ 5. Holistic Policy & Planning
- ✅ 6. Flexibility Based on Regional Burden
- ✅ 7. Unified National and International Reporting

WHY NVBDCP

Disease	2023 Cases (approx.)	2023 Deaths	Endemic States (Main)
Malaria	~170,000	<100	Odisha, Chhattisgarh, Jharkhand, Maharashtra
Dengue	~200,000–250,000	~300–500	PAN-India, esp. Kerala, Delhi, Maharashtra
Chikungunya	~80,000	0	Karnataka, Maharashtra, Delhi, Gujarat
Lymphatic Filariasis	~23 million infected	Rare deaths	Bihar, UP, Jharkhand, Odisha, Tamil Nadu
Kala-azar	<900 cases	<10	Bihar, Jharkhand, UP, West Bengal
Japanese Encephalitis	~1,000–1,200	~100–200	Assam, UP, Bihar, West Bengal, Odisha

WHY NVBDCP

- Vector-borne diseases account for:
  - **~15–20% of all communicable disease burden** in India
  - Major contributors to **DALYs (Disability Adjusted Life Years)** in affected regions
  - Significant strain on **public hospitals during outbreak months (Jun–Nov)**

OBJECTIVES OF NVBDCP

- **1. Prevention and Control :** To prevent and control malaria, dengue, chikungunya, lymphatic filariasis, kala-azar, and Japanese encephalitis through integrated interventions.
- **2. Disease Elimination Goals:** Eliminate:
  - **Kala-azar** by **2027**
  - **Lymphatic filariasis** and **malaria** by **2030**
- **3. Early Diagnosis and Prompt Treatment:** Ensure 100% diagnostic coverage and free, timely treatment, especially in tribal and high-risk areas.

OBJECTIVES OF NVBDCP

- **4. Integrated Vector Management (IVM) :** Implement vector control strategies such as:
  - Indoor residual spraying (IRS), Long-lasting insecticidal nets (LLINs), Fogging and larval source reduction
- **5. Capacity Building :** Train health personnel and strengthen laboratory and entomological infrastructure.
- **6. IEC and Community Participation :**Promote public awareness and behavior change through:
  - IEC (Information, Education, Communication), BCC (Behaviour Change Communication)

OBJECTIVES OF NVBDCP

- **7. Surveillance, Monitoring & Evaluation**
- Strengthen case detection and outbreak response with data-driven MIS systems.
- **8. Inter-sectoral Coordination**
- Collaborate with urban development, water supply, sanitation, and education sectors for sustainable vector control.

STRATEGIES OF NVBDCP

Strategies
1. Early case detection and Complete treatment
2. Integrated Vector management
3. Mass Drug administration for Filariasis
4. Vaccination – JE Vaccine in Endemic states
5. Intersectoral Convergence
6. Surveillance, Monitoring and Endemic preparedness
7. IEC (Information, Education, Communication), BCC (Behaviour Change Communication)

TREATMENT OF *P.VIVAX* MALARIA

Drug	Dose
Chloroquine	25 mg/kg over 3 days (10 mg/kg on Day 1 & 2; 5 mg/kg on Day 3)
Primaquine	0.25 mg/kg daily for 14 days (anti-relapse therapy) (Contraindicated in pregnancy & infants <1 year)

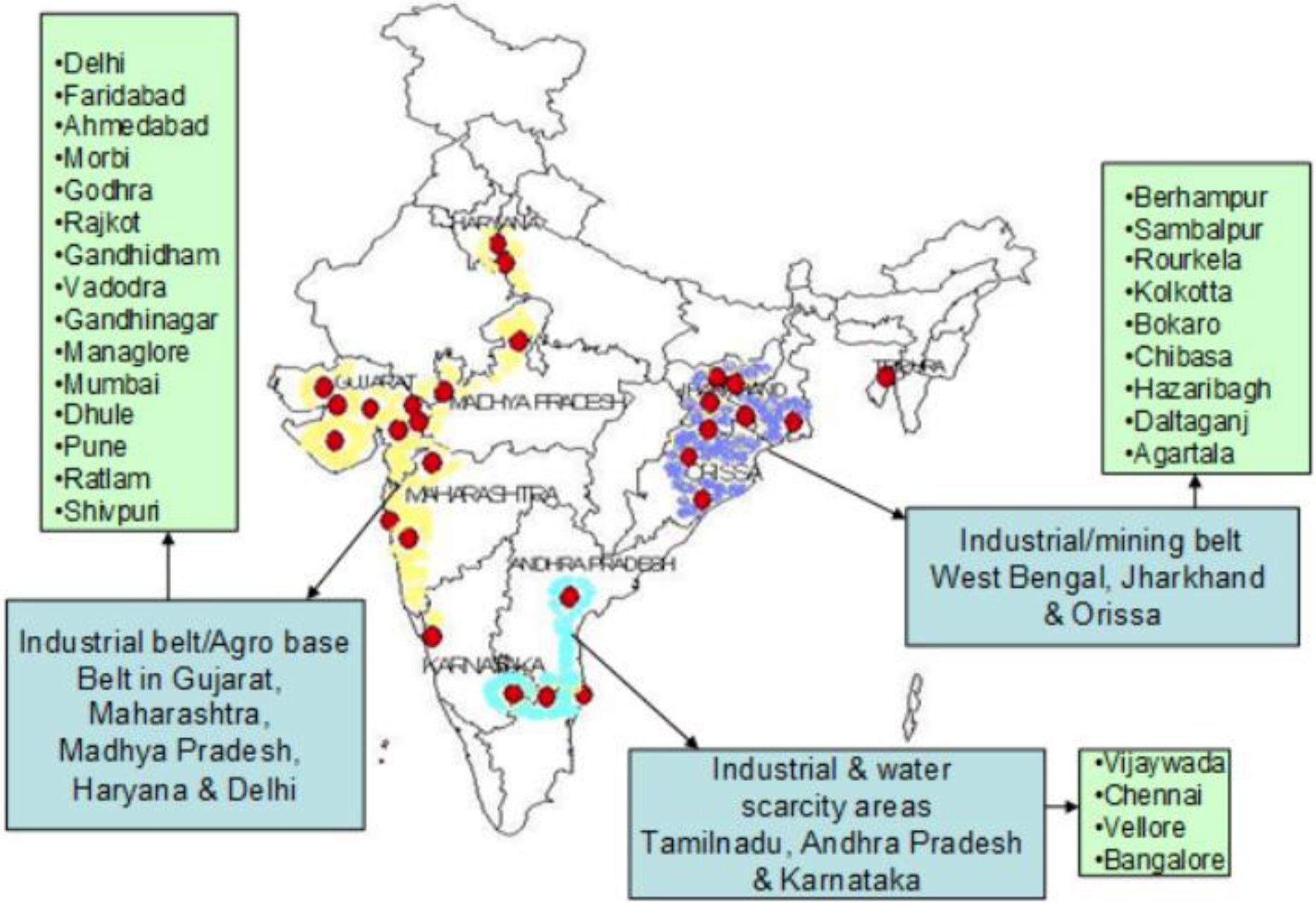
TREATMENT OF *P. FALCIPARUM* MALARIA

Area	ACT Regimen
North Eastern States	**ACT-AL**: Artemether 20 mg + Lumefantrine 120 mg per tablet – Twice daily for 3 days based on body weight
Rest of India	**ACT-SP**: Artesunate 4 mg/kg for 3 days + Sulfadoxine-Pyrimethamine (25 mg/kg + 1.25 mg/kg) single dose on Day 1
Primaquine	0.75 mg/kg single dose on Day 2 (gametocidal) *(Contraindicated in pregnancy & infants <1 year)*

PREVENTION OF MALARIA

Category	API Criteria	Description	Prevention/Control Strategy
Category 0	Indigenous cases = 0 for 3 years	**Prevention of re-establishment of malaria transmission**	Vigilant surveillance and containment of imported cases
Category 1	API < 1 in all districts	**Elimination phase**	Case-based surveillance, vector control, interruption of local transmission
Category 2	API < 1 in some districts but ≥ 1 in others	**Pre-elimination phase**	Strengthen surveillance in low-API areas; aggressive control in high-API areas
Category 3	API ≥ 1 in all districts	**Intensified control phase**	Universal diagnostic coverage, mass distribution of LLINs, IRS, active surveillance, IEC/BCC

High Risk cities for Urban Malaria → Urban Malaria Scheme



PREVENTION & TREATMENT (℞) OF FILARIASIS

- **Mass Drug Administration (MDA) – Preventive Strategy,** Conducted **once annually** in all endemic districts to interrupt transmission.
- India aims to **eliminate LF by 2030**. Emphasis on both **transmission control (MDA)** and **morbidity management (MMDP)**.
- **Triple drug therapy (IDA)** is the current national protocol.

Drugs Used (Triple Drug Therapy - IDA)	Dosage
Ivermectin (200 µg/kg)	Single dose
DEC (Diethylcarbamazine) – 6 mg/kg	Single dose
Albendazole – 400 mg	Single dose

MORBIDITY MANAGEMENT AND DISABILITY PREVENTION (MMDP)

- Focused on people already affected by **lymphoedema** or **hydrocele**.
- 🦾 **A. Lymphoedema (Swollen limbs):** Daily **hygiene** and **skin care,** Elevation of limbs, exercise. Management of acute attacks (ADLA) with **Antibiotics**: Amoxicillin or Penicillin (if secondary infection), **Antipyretics**: Paracetamol, **Antifungals**: if fungal infection present
- 🩺 **B. Hydrocele:** Surgical correction (Hydrocelectomy) offered **free of cost** under NVBDCP. Conducted in **district hospitals and PHCs**

WHO CLASSIFICATION OF DENGUE FEVER

Category	Description	
A. Dengue without warning signs (Fever + 2 minor symptoms)	Fever, myalgia, rash, positive tourniquet test, leukopenia	OPD care
B. Dengue with warning signs (Fever + 1 major sign)	Abdominal pain, persistent vomiting, fluid accumulation, mucosal bleeding, lethargy, hepatomegaly, rising hematocrit with rapid drop in platelets	Admit for monitoring
C. Severe Dengue	Shock, severe bleeding, organ impairment (liver, heart, CNS)	ICU/Emergency care

℞ OF DENGUE WITHOUT WARNING SIGNS

- **Outpatient care**
- **Hydration and symptom relief**
- Regular monitoring for warning signs
- **Paracetamol** (10–15 mg/kg every 6 hrs) for fever
- **Avoid NSAIDs/aspirin** (e.g., ibuprofen) due to bleeding risk
- **Oral fluids**: 80–100 mL/kg/day (ORS, coconut water, fruit juice)
- Daily **monitoring of hematocrit and platelet count**

℞ OF DENGUE WITH WARNING SIGNS

- **Start IV fluid therapy (crystalloids)** — Ringer's lactate or Normal saline
- Initial rate: **5–7 mL/kg/hr for 1–2 hours**, then reduce gradually
- Monitor:
  - Vitals every 2–4 hours
  - Hematocrit every 6–12 hours
  - Urine output: Target ≥0.5 mL/kg/hr
- **No prophylactic platelet transfusion** unless bleeding occurs or platelet <10,000/μL

℞ OF SEVERE DENGUE

- **Rapid IV fluid resuscitation** (10–20 mL/kg NS over 15–30 min)
- Monitor for **signs of shock**, bleeding, or fluid overload
- If unresponsive to crystalloids → use **colloids** (e.g., Dextran)
- **Blood transfusion** if:
  - Severe bleeding or
  - HCT drops with unstable vitals
- **ICU care** for organ dysfunction or refractory shock

℞ OF JAPANESE ENCEPHALITIS

- JE patients typically present with **acute encephalitic syndrome (AES)**: Fever, altered sensorium, seizures, or coma. Management is **supportive. No anti-Viral treatment**

Fever management	**Paracetamol** 10–15 mg/kg per dose every 6 hrs
Seizure control	**Diazepam** (0.2–0.3 mg/kg IV) or **Lorazepam** for convulsions
Intracranial pressure	Elevate head, mannitol (0.25–0.5 g/kg IV), restrict fluids if cerebral edema
Fluids	Maintain hydration; avoid overload (to prevent cerebral edema)
Oxygen	Administer to all patients with altered sensorium
Nutrition	NG tube feeding if unconscious
Antibiotics	May be started empirically until bacterial meningitis is ruled out
ICU support	For severe cases with coma, shock, or multi-organ failure

JE VACCINATION

- **Vaccination** is the only effective long-term strategy:
  - **JE vaccine (Live SA-14-14-2)** under **Universal Immunization Programme (UIP)**
  - Target group: **Children aged 9 months–15 years** in endemic districts
  - 2 doses: First at 9 months, second at 16–24 months (or during campaigns)

℞ OF CHIKUNGUNYA

- **Chikungunya** is a **viral illness** caused by the **Chikungunya virus (CHIKV).**
- **No antiviral treatment** is available.
- Treatment is **purely symptomatic and supportive in different phases**
  - 🩺 **A. Acute Phase (0–10 days)**
  - 🦴 **B. Post-Acute/Subacute Phase (10 days to 3 months)**
  - 🧓 **C. Chronic Phase (>3 months)**

℞ OF ACUTE PHASE OF CHIKUNGUNYA

Symptoms: High fever, rash, intense joint pain (especially small joints), headache, nausea, photophobia.

Component	Protocol
Fever & pain relief	Paracetamol 10–15 mg/kg every 6 hrs. Avoid NSAIDs initially.
Hydration	ORS or IV fluids to prevent dehydration.
Rest	Complete bed rest during febrile stage.
Avoid aspirin/NSAIDs	Especially in initial stages to avoid risk of bleeding or dengue confusion.

℞ OF POST-ACUTE/SUBACUTE PHASE (10 DAYS TO 3 MONTHS) OF CHIKUNGUNYA

- **Symptoms:** Persistent arthralgia or arthritis, stiffness, fatigue.

Component	Protocol
Pain management	NSAIDs: Ibuprofen or Naproxen (after ruling out dengue).
Joint support	Physiotherapy, range-of-motion exercises.
Topical treatment	Local analgesic ointments for joint pain.

℞ OF CHRONIC PHASE (>3 MONTHS) OF CHIKUNGUNYA

- **Seen in ~30–40% of adult cases**, especially elderly and those with comorbidities.

Component	Protocol
Rheumatology consult	For persistent arthritis mimicking rheumatoid arthritis.
DMARDs	Considered in severe disabling joint symptoms (under specialist care).
Corticosteroids	Low-dose oral steroids in resistant inflammatory arthritis cases.

KALA AZAR

- **Causative Agent**: *Leishmania donovani*
- **Vector**: Female *Phlebotomus argentipes* (sandfly)
- **Transmission**: Human–sandfly–human cycle
- **Endemic states**: Bihar, Jharkhand, Uttar Pradesh, West Bengal, etc.

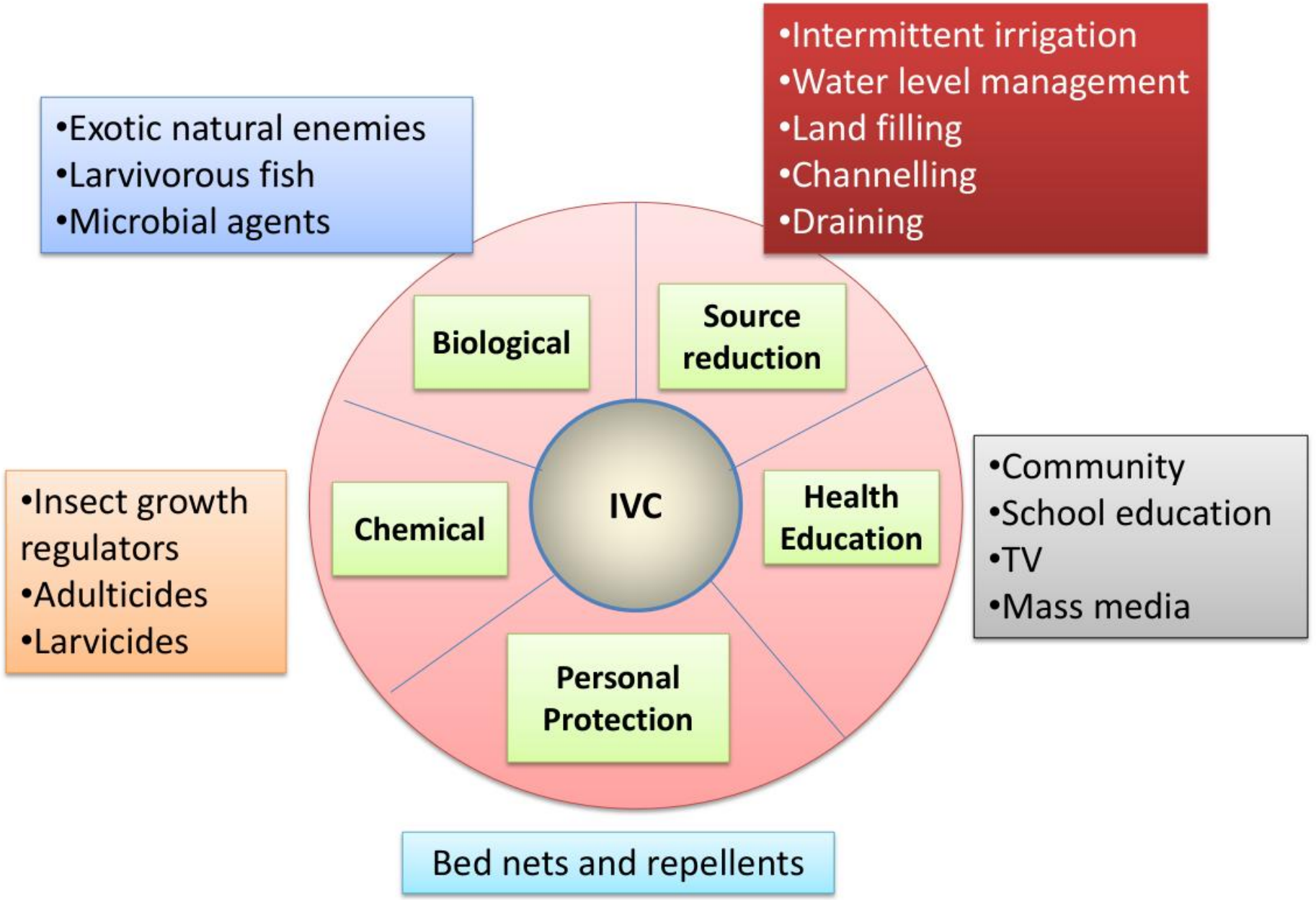
℞ AND PREVENTION OF KALA AZAR

- **Indoor Residual Spray twice a year** is the main vector control tool.
- NVBDCP's goal: <1 case/10,000 at sub-district level.
- Early diagnosis + single-dose **LAmB** is central to breaking transmission.
- **Liposomal Amphotericin B 10 mg/kg single dose** is the **current standard**.
- Treatment is free under **NVBDCP** in endemic districts.
- PKDL (Post Kala-Azar Dermal Leishmaniasis) acts as a **parasite reservoir**, needs mandatory treatment. **PKDL treatment** is essential to eliminate parasite reservoirs.

IEC FOR VECTOR CONTROL

- Use of **mosquito nets and repellents**
- Eliminate mosquito breeding sites (empty containers, stagnant water)
- **Dry Day technique**
- Ensure IRS compliance (don't paint walls after spray)
- Wear **protective clothing**
- Early health-seeking behavior

- **Integrated Vector Control measures**



SUMMARY

- The **National Vector Borne Disease Control Programme (NVBDCP)** is India's flagship public health initiative targeting six major vector-borne diseases: malaria, dengue, chikungunya, filariasis, kala-azar, and Japanese encephalitis.
- It emphasizes **integrated vector control**, **early diagnosis**, **free treatment**, and **community participation**.
- The program also aims for **elimination of Kala-azar by 2027**, and **malaria and filariasis by 2030**, through strategies like **IRS, MDA, and IEC/BCC campaigns**.

THANK YOU…