



A Framework for Decentralized Decision-making *in IVM*

Henk van den Berg & Willem Takken
Wageningen University, Netherlands



Decentralization in health sector

- Threat to logistically demanding interventions like IRS
- Conducive to inter-sector collaboration and community participation (but: guidance has been inadequate)

IPM

- Unit of analysis: Field plot with uniform conditions
- Main stakeholder: Farmer
- Economic incentives



IVM

- Unit of analysis: Large area; heterogeneous conditions
- Stakeholders: Many (communities, etc.)
- No direct economic incentives

>> Need to work with other sector





Process of analysis and decision-making

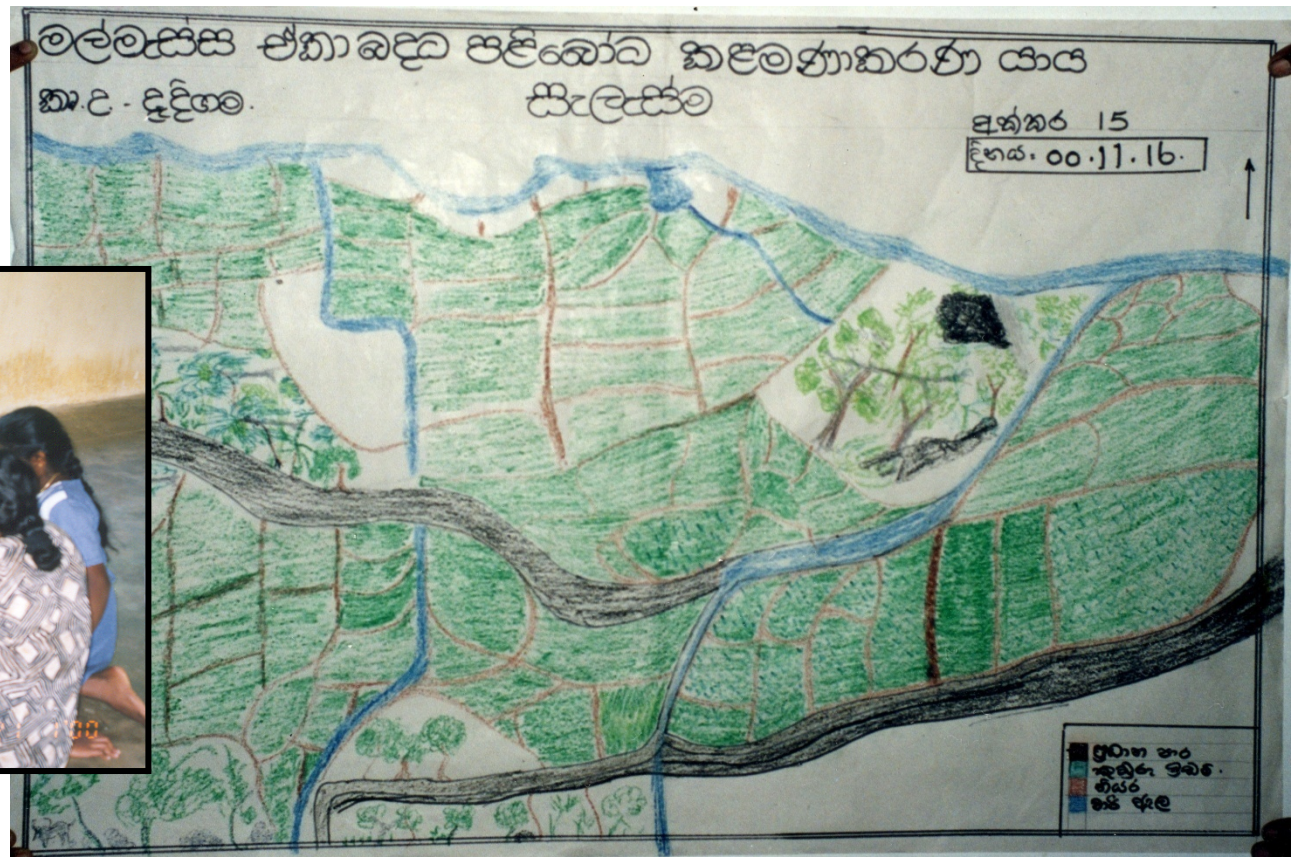
1. Determinants of disease
2. (participatory) mapping
3. Appraisal of available methods
4. Consolidated strategy

Determinants of disease

Development stage of the Parasite	Biological and environmental aspects			
	A. Parasite	B. Vector	C. Human	D. Environment
Transmission	A1. <u>Species</u>	B1. <u>Species/strain</u> B2. <u>Dispersal</u> B3. <u>Habitat selection</u> B4. <u>Proliferation</u> B5. <u>Behaviour</u> B6. <u>Adult longevity</u>	C1. <u>Density</u> C2. <u>Migration/movement</u> C3. <u>Proximity to vectors</u> C4. <u>Domestic conditions</u> C5. <u>Practices & attitudes</u>	D1. <u>Climate</u> D2. <u>Ecosystem & habitat</u> D3. <u>Land-use and cover</u> D4. <u>Alternate hosts</u>
Infectious reservoir	A1. <u>Species</u>		C6. <u>Resilience</u> C7. <u>Medication</u>	D1. <u>Climate</u> D4. <u>Alternate hosts</u>

Mapping

1. Macro-stratification (populations, disease prevalence)
2. Medium/micro-level mapping (populations, vector habitat, risk/vulnerability, resources)





2 reasons for decentralizing below the district level

1. Epidemiology of disease can vary at small spatial scale
2. A number of determinants relate to communities, their actions and conditions



Vector control methods

Environmental	Source reduction Habitat manipulation Irrigation management
Structural adaptations	Design of irrigation structures House improvement Waste water management
Mechanical	Polystyrene beads Removal trapping Zooprophylaxis
Biological	Natural enemy conservation Biological larvicides
Chemical	Insecticide-treated bed nets Indoor residual spraying Insecticidal treatment of habitat

Methods vis-à-vis determinants

	Determinants												
	Parasite species/strain	Vector species/strain	Vector proliferation	Vector behaviour	Vector longevity	Migration & movement	Proximity to breeding	Domestic conditions	Practices & attitudes	Human resilience	Medication	Land-use and cover	Alternate hosts
	A1	B1	B4	B5	B6	C2	C3	C4	C5	C6	C7	D3	D4
Vector control methods													
Environmental methods			■									■	
Structural adaptations			■				■	■	■			■	■
Mechanical methods			■		■								■
Biologicals		■	■										
Chemical methods		■	■	■	■				■				



Appraisal of methods

Vector control methods	Side effects	Sustainability	Resources	Repeated action
Environmental methods	–	High	Local	Regular
Structural adaptations	–	High	Local, programs	Occasional
Mechanical methods	–	Medium	Local, programs	Occasional
Biologicals	–	Medium	Local, programs	Occasional/regular
Chemical methods	++	Low	Spray teams	Regular

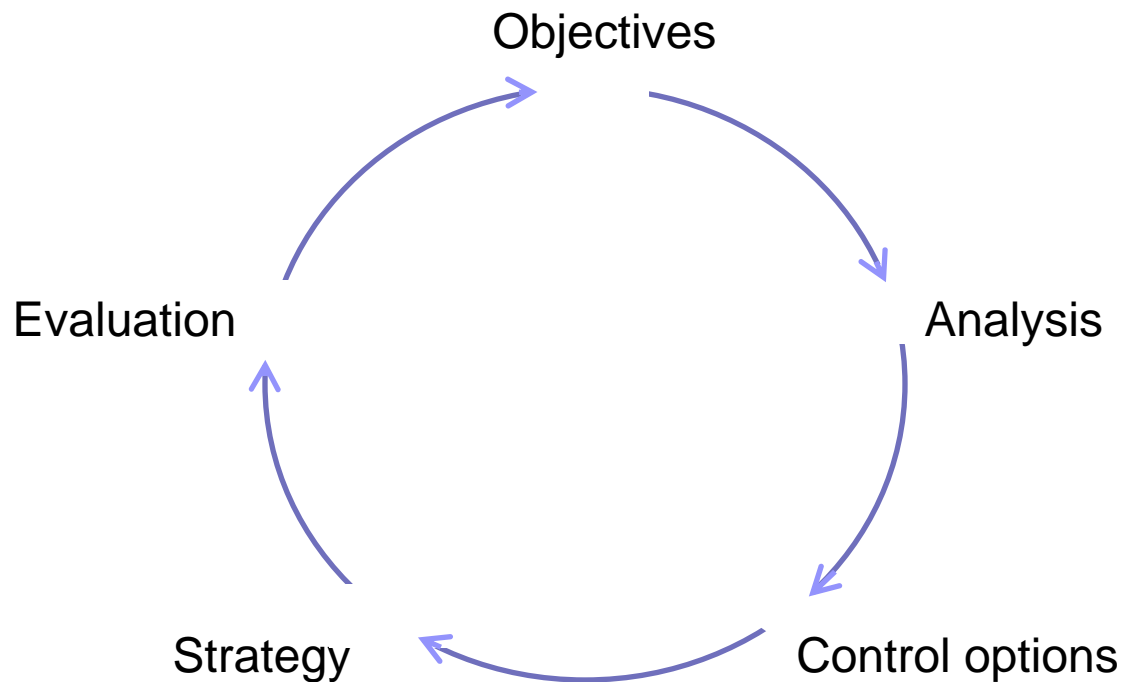


Framework for decision-making

Step	National	District	Municipality	Community
Baseline	Stratification of districts	Baseline on disease	Surveys	Local surveys
Programme development	Facilitation of districts	Basic education; IVM alliance	Basic education; IVM alliance	Basic education
Analysis		Elucidation of vectors; Describing & mapping of disease determinants	Elucidation of vectors; Describing & mapping of disease determinants	Describing & mapping of determinants
Identification of options		Appraisal of Methods	Appraisal of methods	Appraisal of methods
Consolidation		Integrated strategy; needs assessment	Integrated strategy; needs assessment	Local plan of action
Evaluation	Independent studies	Use of data on disease incidence	Participatory Evaluation	Participatory evaluation

IVM alliance

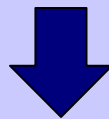
- At the level of district, municipal and community
- Basic education to build local capacity



Conclusions

- IVM extends the basis of vector control by involving other sectors and communities
- Hence, determinants outside the scope of the health sector are tackled
- A shift is needed:

Centrally managed vector control operations



Education & facilitation of multi-partner
IVM programmes at district/local level



THANK YOU