

MALARIA ELIMINATION IN SURINAME

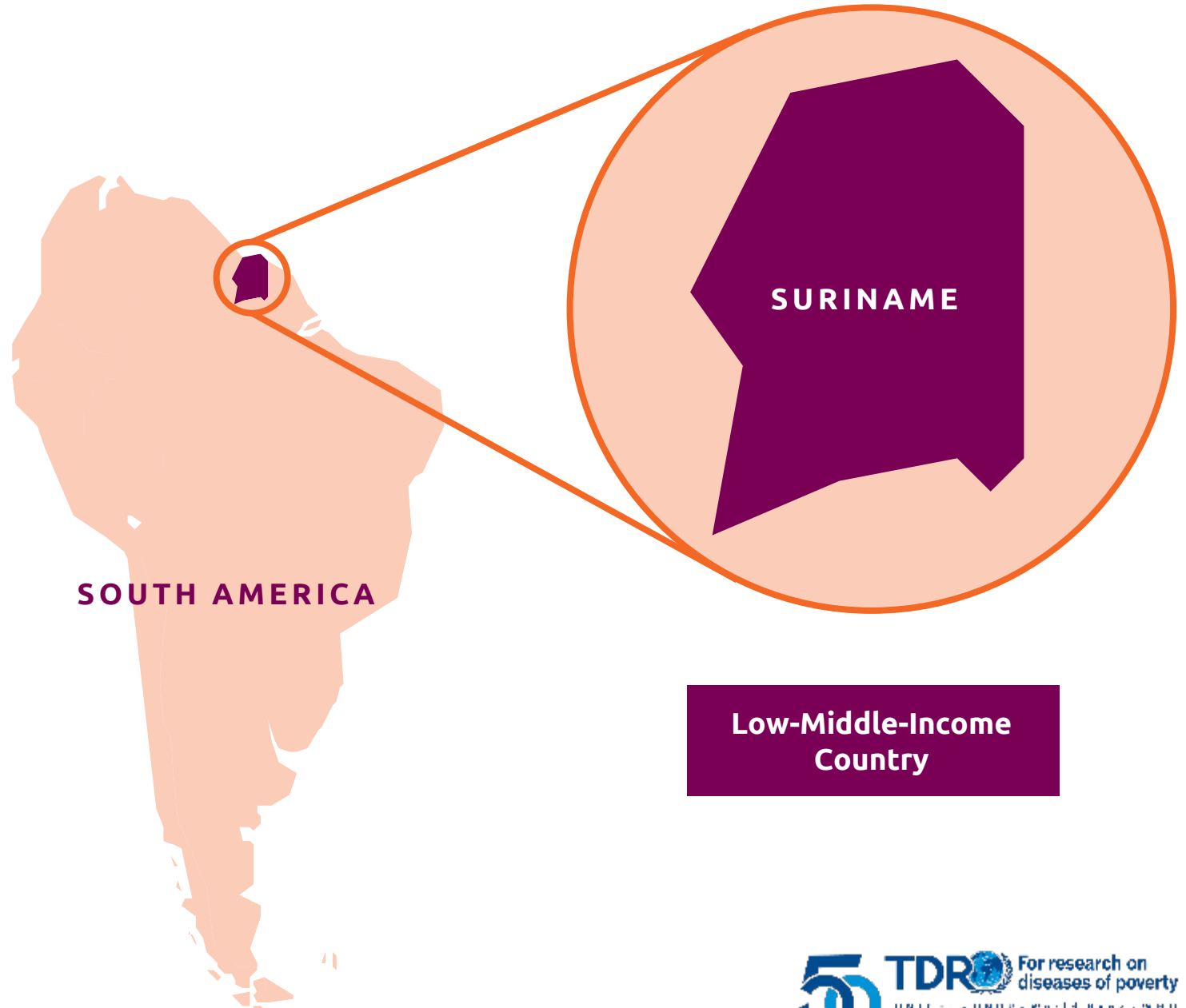
The approach and the challenges

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Malaria Elimination Task Force Suriname

Suriname

- > 90% covered by rainforest.
- Population of 592 000, primarily in coastal areas.
- ± 81 000 Indigenous and Tribal Populations inland.
- ± 20 000 mobile migrant populations in the forest, working in Artisanal Small-scale Gold Mining (ASGM).

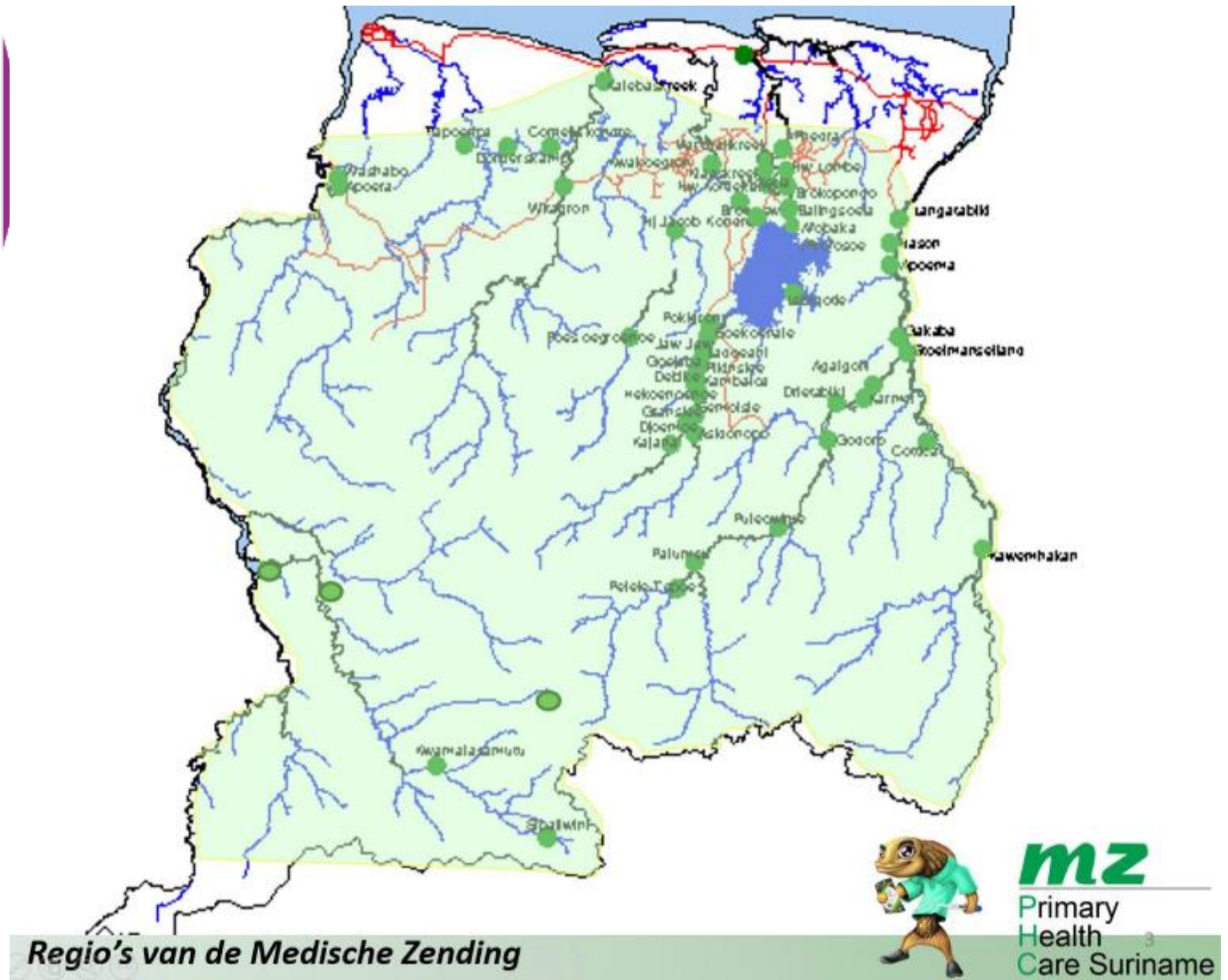




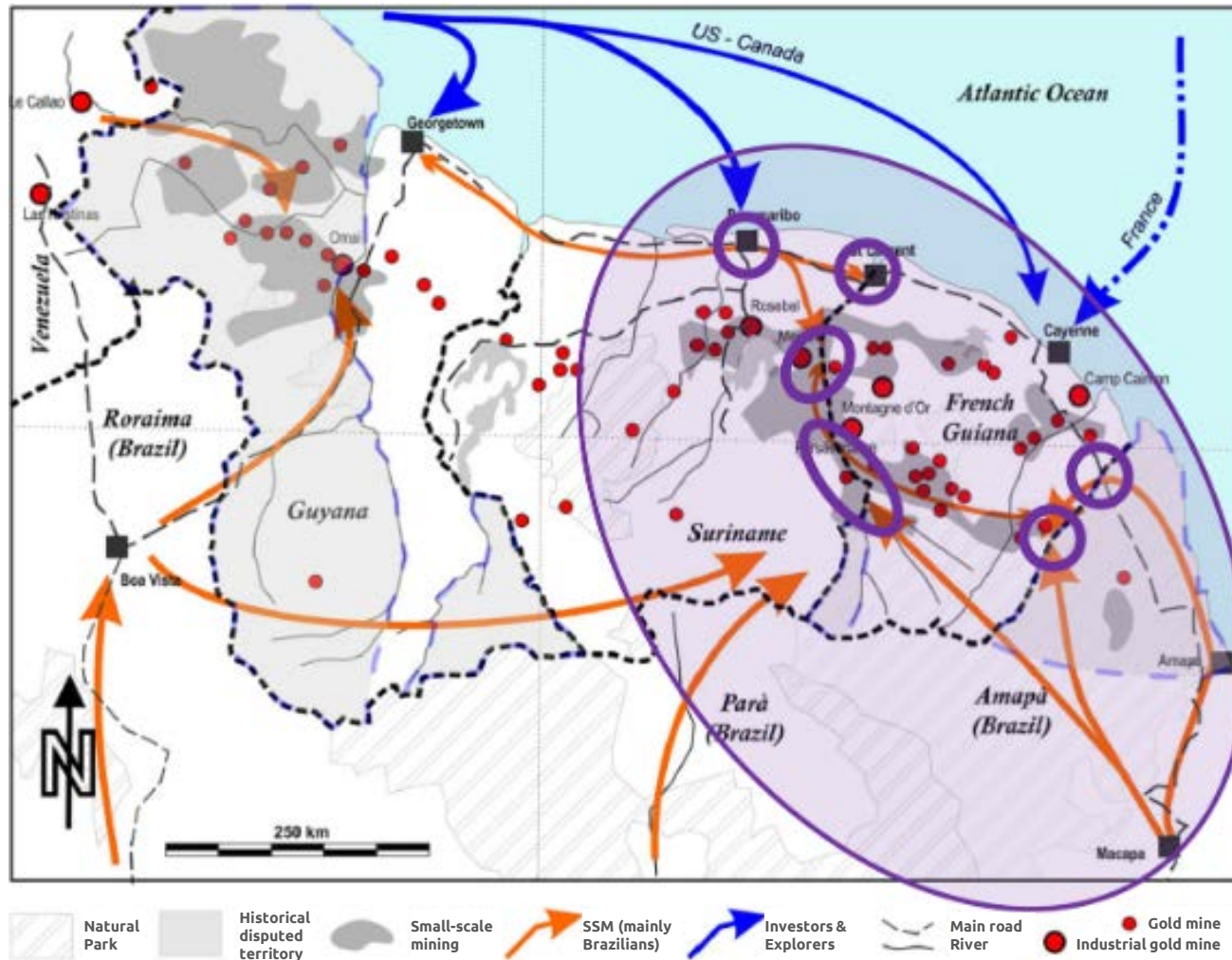
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**Clinics (green circles) of
Medical Mission Primary
Health Care in the interior
of Suriname**

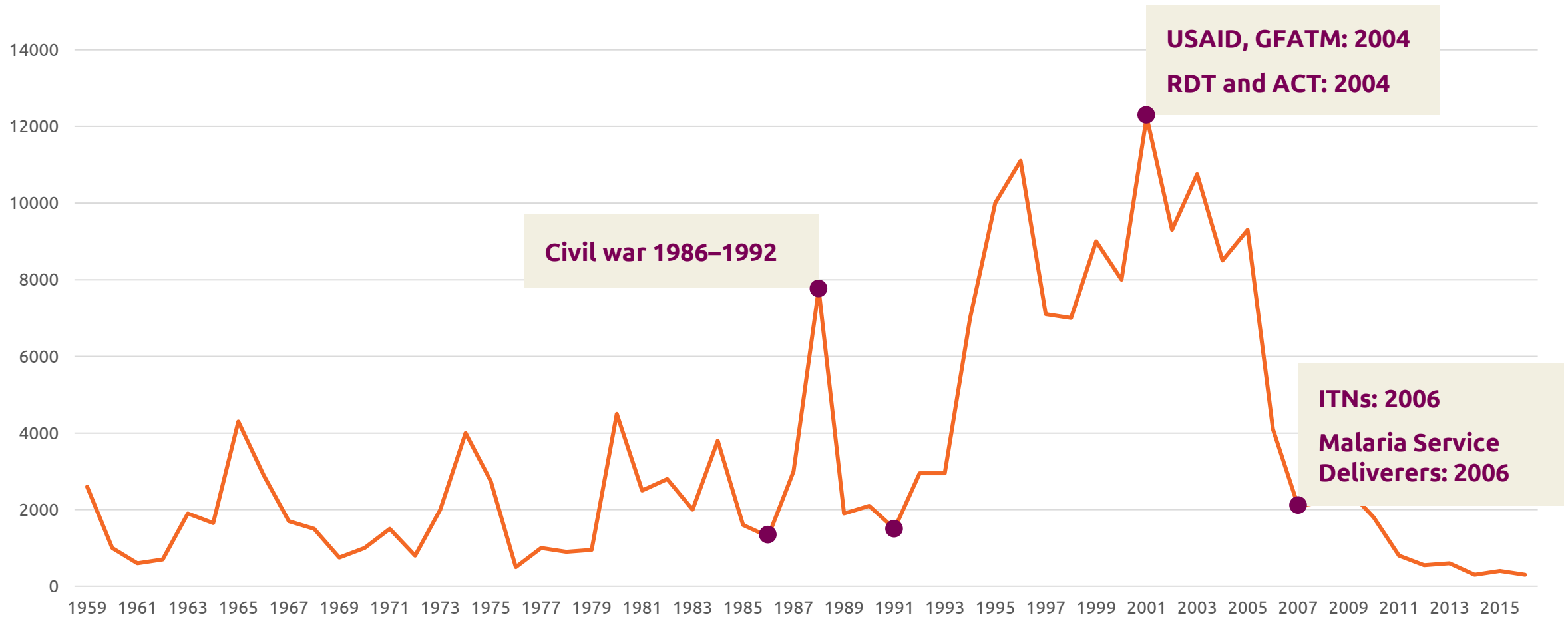


Regional migration related to gold mining activities



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Suriname Malaria situation 1959–2016

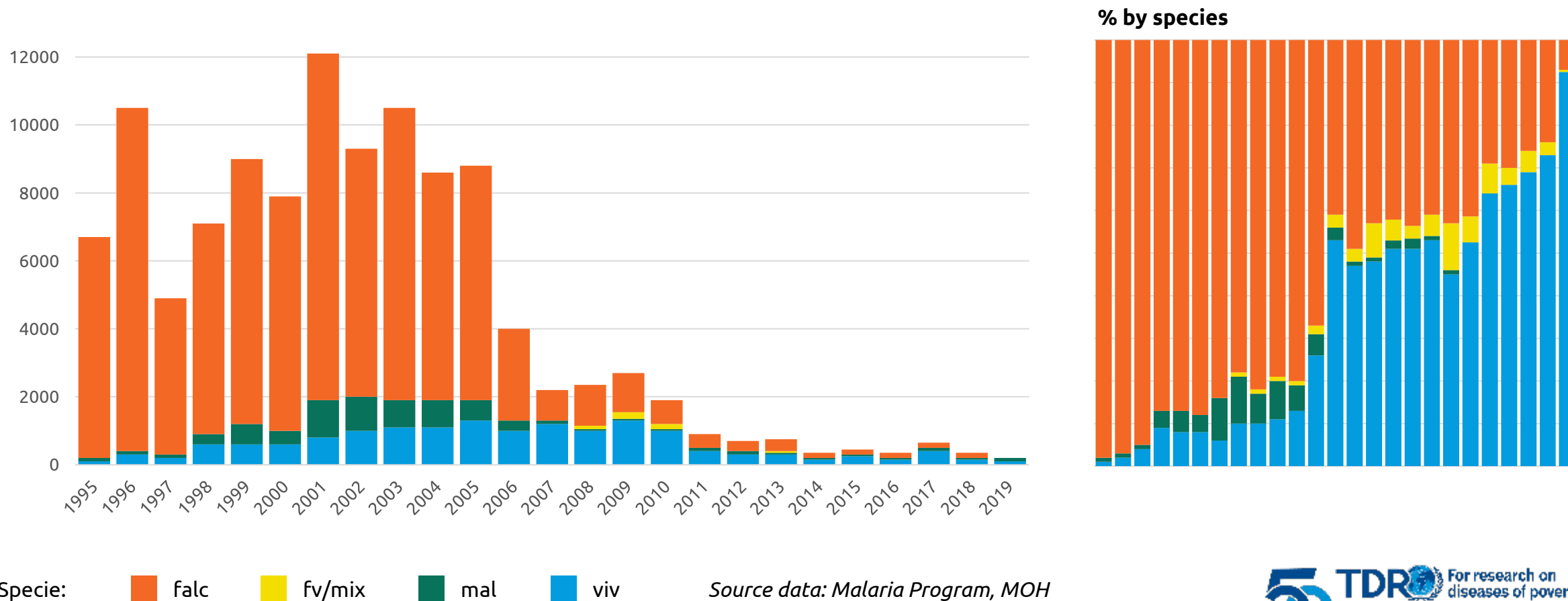


Formal Two-weeks Training of Malaria Service Deliverers (MSD)

- Basic knowledge of malaria pathogenesis and symptoms
- Performing malaria RDT's
- Making and preserving blood smears (thick and thin)
- Issuing malaria medication per species detected
- Reporting to supervisors at the central level
- Participating in malaria screening missions (Active and Reactive Case Detection)
- *The deployment of MSD contributed significantly to malaria elimination from Suriname's gold mining fields.*

The malaria elimination road : shifting from *P. falciparum* to *P. vivax*

Suriname Summary of Main Trends 1995–2019 Species and Country Infection



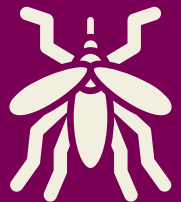
Problems of malaria in transborder migrants



Risk of serious illness or death due to malaria in the French forest.



Poor application of (counterfeit) antimalarials poses a risk for resistance.



Re-introduction of malaria into Suriname.



The Malakit Project 2018–2020

Brazil, French Guiana, Suriname



Approach:

Instructing transborder gold mining communities to self-test and treat malaria in French mining sites.



Providing testing materials and treatment.



Pre and post intervention surveys about Knowledge, Attitudes and Practice.



Analyzing the effect on imported malaria cases in Brazil and Suriname.

Composition of the MALAKIT

In order to avoid complexity:

- Malaria RDTs not distinguishing malaria types, were included in the kit.
- (CareStart™ Malaria pLDH (pan), ACCESSBIO, NJ, USA.)

The unfolded kit



The RDTs pocket



The medication pocket

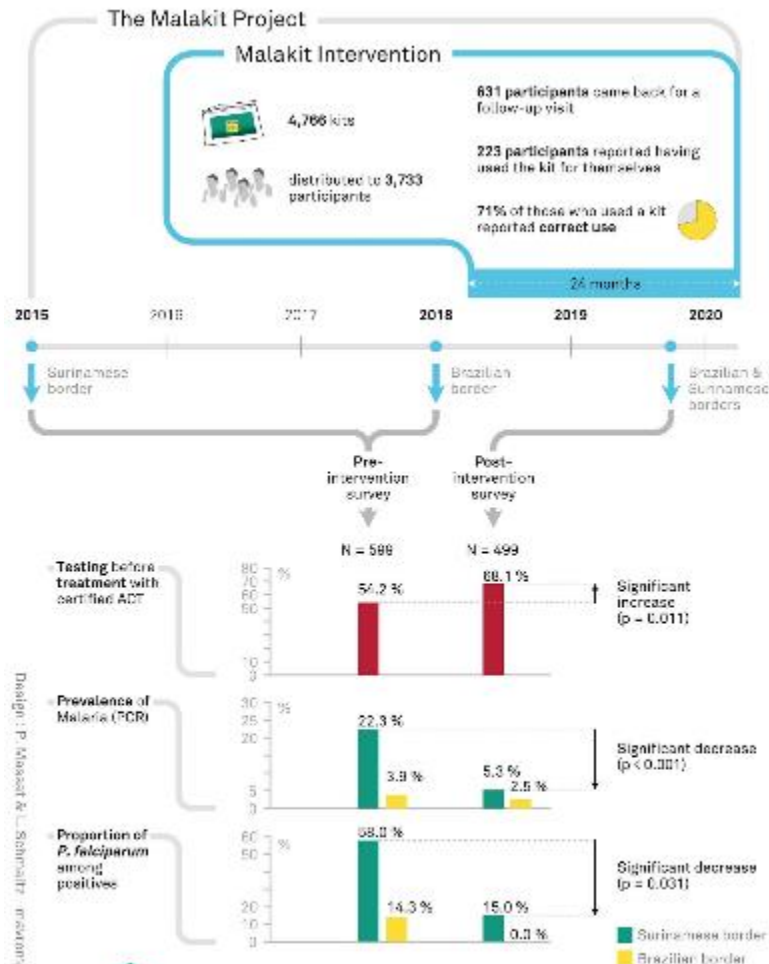


MALAKIT: The procedure

1. Advertising the project to the target population.
2. Enroll with informed consent.
3. Provide one-on-one malaria information.
4. Instructions on using the kit.
5. Interpretation of the test results and actions.
6. Provision of a test kit and ITN.
7. Downloading instructions on mobile phones.



Results of the intervention



Malakit helped prevent an estimated 43% of the cases of malaria imported from French Guiana in Brazil and Suriname between April 2018 and March 2020.

- 2-year pilot: 4 766 kits to 3 733.
- Pre/post studies: 1 098 patients.
- ≈ 43% fewer malaria cases from French Guiana.
- Mainly cuts in *P. falciparum* cases.
- *P. vivax* is different!

Conclusion

"This innovative tri-national project shows that people with little education can be effectively trained to self-care for malaria and change their behavior."

This strategy could be a new tool for malaria control in other regions facing a similar situation."

In 2020 the MOH formally included MALAKIT as one of the tools in Suriname's malaria elimination strategy.



CUREMA project

- Artisanal gold miners in Guiana Shield.
- Collaboration among Brazil, French Guiana, Suriname scientists.
- Funded by Centre Hospitalier de Cayenne.
- Launched March 2023 in Brazil and Suriname.

Three study interventions:

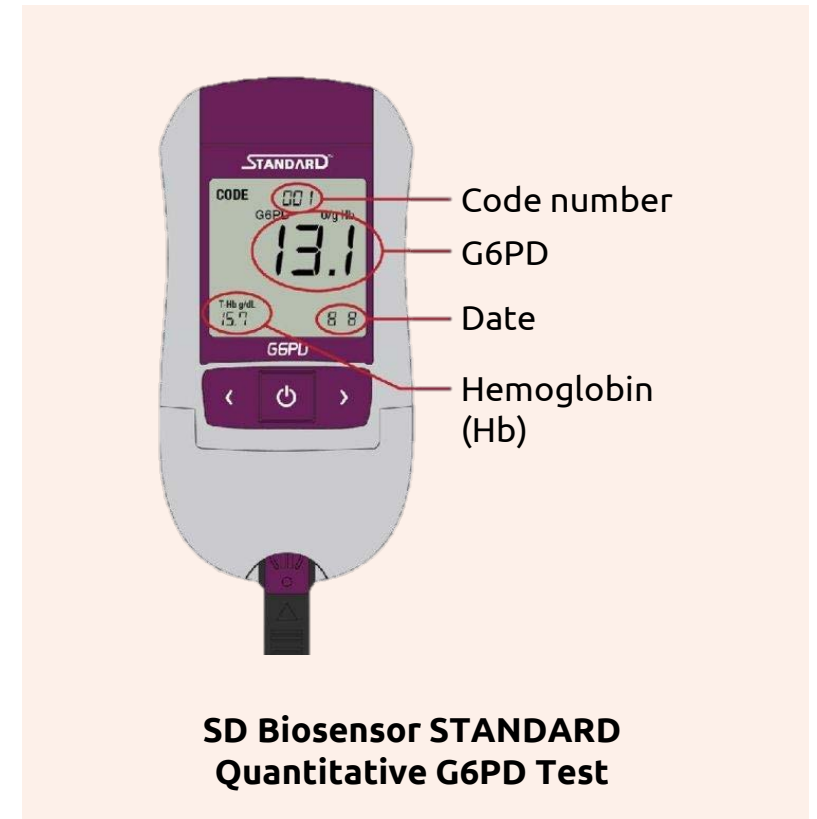
1. Issuing MALAKIT

2. Issuing Chloroquine and Primaquine for 7 days to those potentially exposed to *P. vivax* malaria

3. A combination of 1 and 2

CUREMA: The procedure

1. Advertising the project to the target population.
2. Chloroquine and primaquine given post G6PD check and negative pregnancy test.
3. Assessing impact by comparing # P. vivax cases from FG to Suriname and Brazil pre- and post-intervention.
4. Study to be terminated by December 2024.



Summarizing Suriname's malaria elimination efforts:

- **Challenges:** Re-introduction from bordering countries
- **Innovation:** MSD, MALAKIT, CUREMA,.....
- **Regional Integration:** Key to Guiana Shield elimination.

Contribution of TDR to malaria control in Suriname highly appreciated

- Bi-national Project Highlights:
 - MALAKIT Support: Explaining drug resistance to miners.
 - G6PD Testing: Integration and evaluation.
 - International Meeting: Guidelines for remote populations.
 - Cross regional application: Exploring the possibility of transfer of MALAKIT technology to Senegal

Since September 2021: zero local malaria transmission in Suriname!



THANK YOU!