





Germany

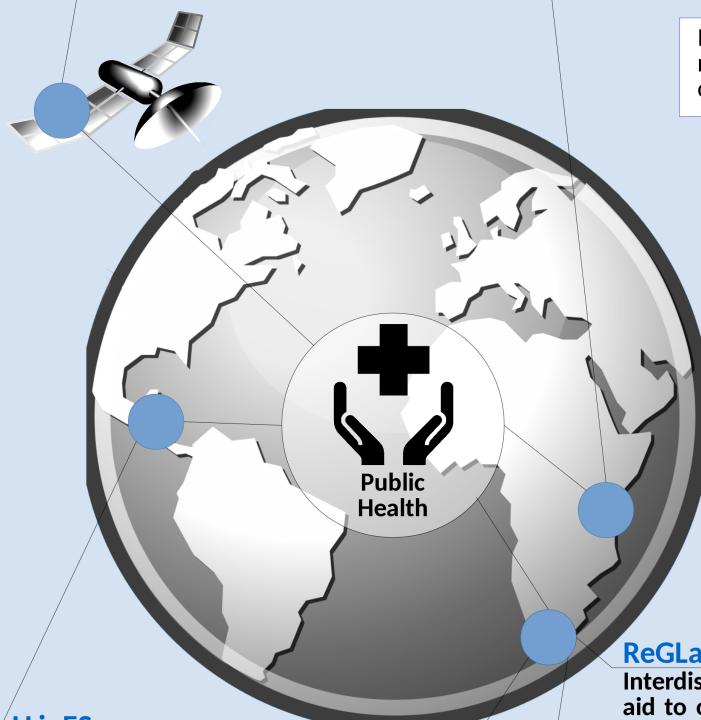
South Africa

Subject: Mathematical modelling for optimising the health system using the One Health approach & ICT4D

Didactics: Problem-oriented mathematics teaching by being embedded in concrete applications in the field of mathematical modelling & digital media in education

Expert Focus Group Space & Global Health

Leveraging the potential of space technology for global health risk mitigation and health service delivery



LLinES

Installation of a Living Lab structure in El Salvador for the research of risk mitigation strategies in the area of chronic kidney disease

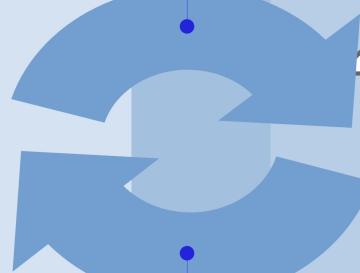
ICT4D in South Africa

Development and provision of OER and OER concepts, as well as Teacher Professional Development Training

ICT4D in Kenya

Leveraging mobile and service oriented technology to improve health in developing economies

Project-oriented questions that require mathematical modelling for cross-curricular problem solving



Analysis of learning and educational processes for capacity building to increase risk awareness

ReGLaN-Health & Logistics

Interdisciplinary development aid to optimise the distribution of medical goods and services

ICT4D KR South Africa

Development of an open ICT4D Knowledge Repository for Southern Africa

Analysis of learning and educational processes

QED

Electronic mathematical proofs in education

Mathematics teaching in school

OpenSource4School

Adjustment of OpenSource Software to the needs of mathematics education

Extracurricular place of learning

Merging different exploratory learning groups

Mathematisches Umweltlabor

Learning through research and development of teaching professionalism in dealing with scientifically gifted pupils.

Schüleruniversität

Advancement of mathematically gifted pupils and integration of the support measures in teacher education

EVE

Establishment of video vignette stimulated video clubs in the field of mathematics education to increase the amount of male students in the field of teaching in primary school

Teacher education & teacher training

“The health system in South Africa can be described as dysfunctional”

- Hoosen Coovadia

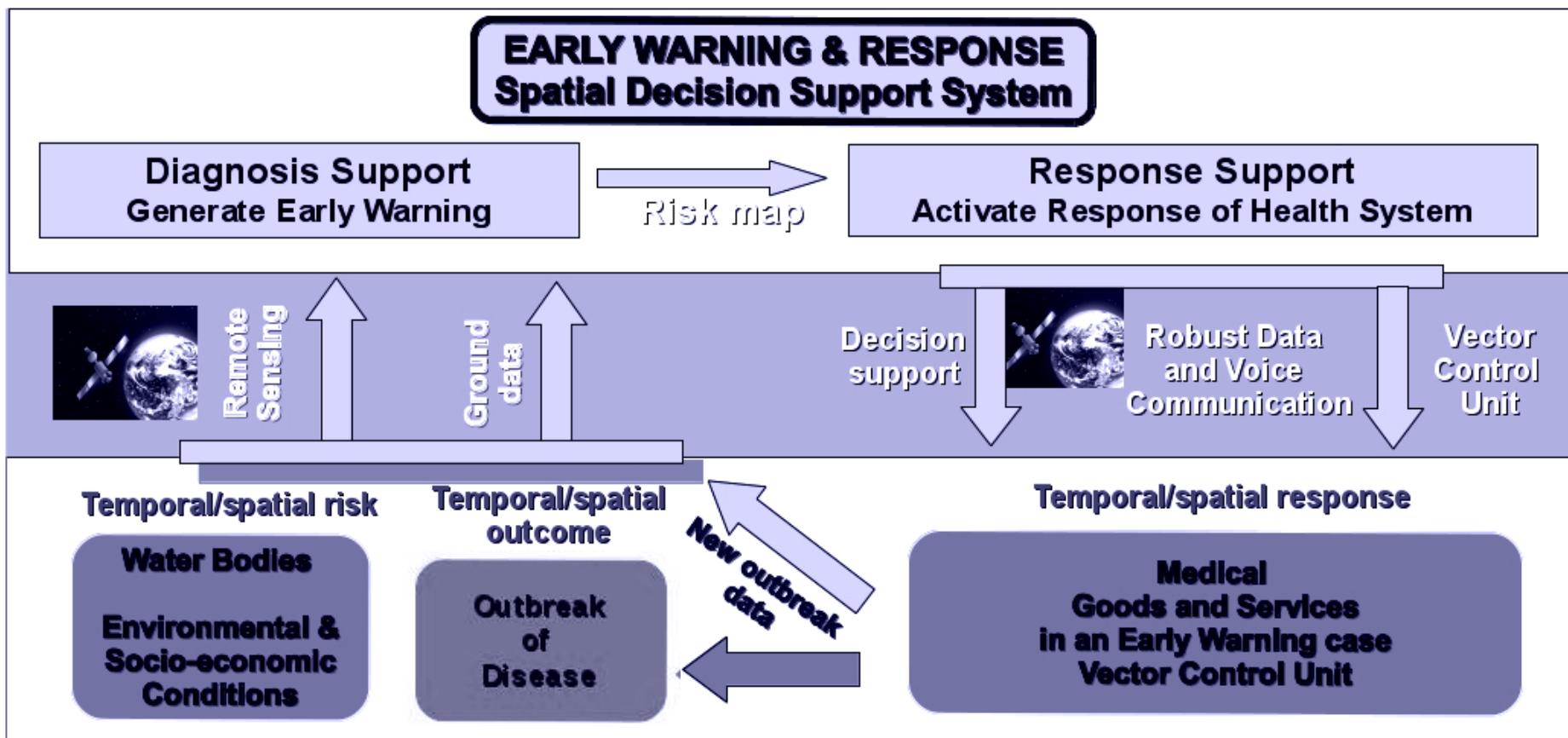


**“In Africa a child dies
every 45 seconds of malaria.”**

- WHO



Different User Groups



[←](#) 139.14.20.137/download/Platz/DataAnalysis/up_form.html

Download

Download a template for the csv-file with

Location 1: Kisumu - in Western Kenya region; Geo-Coordinates: Longitude: 34.7617100, Latitude: -0.1022100
 Location 2: Mombasa - in Coastal Kenya region; Geo-Coordinates: Longitude: 29.6625000, Latitude: 0.0546600
 Location 3: Nairobi - in Eastern Kenya region; Geo-Coordinates: Longitude: 37.2665700, Latitude: -1.3166700
 Location 4: Nakuru - in Rift valley Kenya region; Geo-Coordinates: Longitude: 36.9867000, Latitude: -0.2833300
 Location 5: Meru - in Eastern Kenya region; Geo-Coordinates: Longitude: 37.6556700, Latitude: 0.0462600

[Determine Geo-Coordinates](#)

[Download CSV Template](#)

Download the whole Analysis (all csv-files for Question 12 and Question 14):

[Download All Files](#)

Step 1 _____

Upload (csv-File)

Select a csv-file from your Computer: [Browse](#) No file selected [Submit](#)

Step 2 _____

Interpolation of Data (Output: png-File)

[Start](#)

Download .png-File

[Download png File](#)

Step 3 _____

Interpolation of Data (Output: dat-File)

[Start](#)

Download .dat-File

[Download dat File](#)

Step 4 _____

Show riskmap in EWARS-Tool

Copy file 'data.dat' into another directory.

[Copy File](#)

Show riskmap in EWARS-Tool

[EWARS-Tool](#)

Figure 4(a): Screenshot of the Spatial Data Analysis Demo.
[\(http://139.14.20.137/download/Platz/DataAnalysis/up_form.html\)](http://139.14.20.137/download/Platz/DataAnalysis/up_form.html)

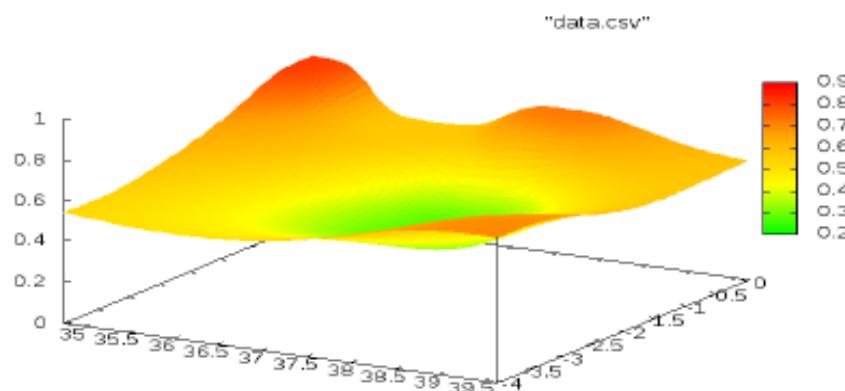


Figure 4(b): Visualization of the results for emphysema disease. Illustration generated with Gnuplot.

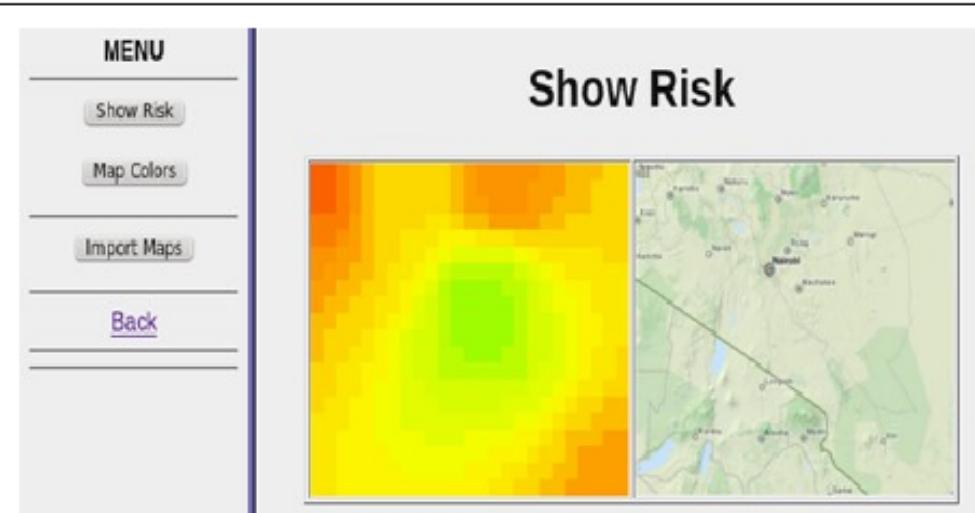


Figure 4(c): Visualization of the results for emphysema disease on a map

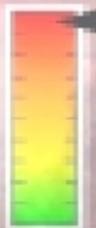
Best Way to get
out of Risk Area



[aerial perspective]



high risk



low risk

[risk map]

SQI: good (0.6)

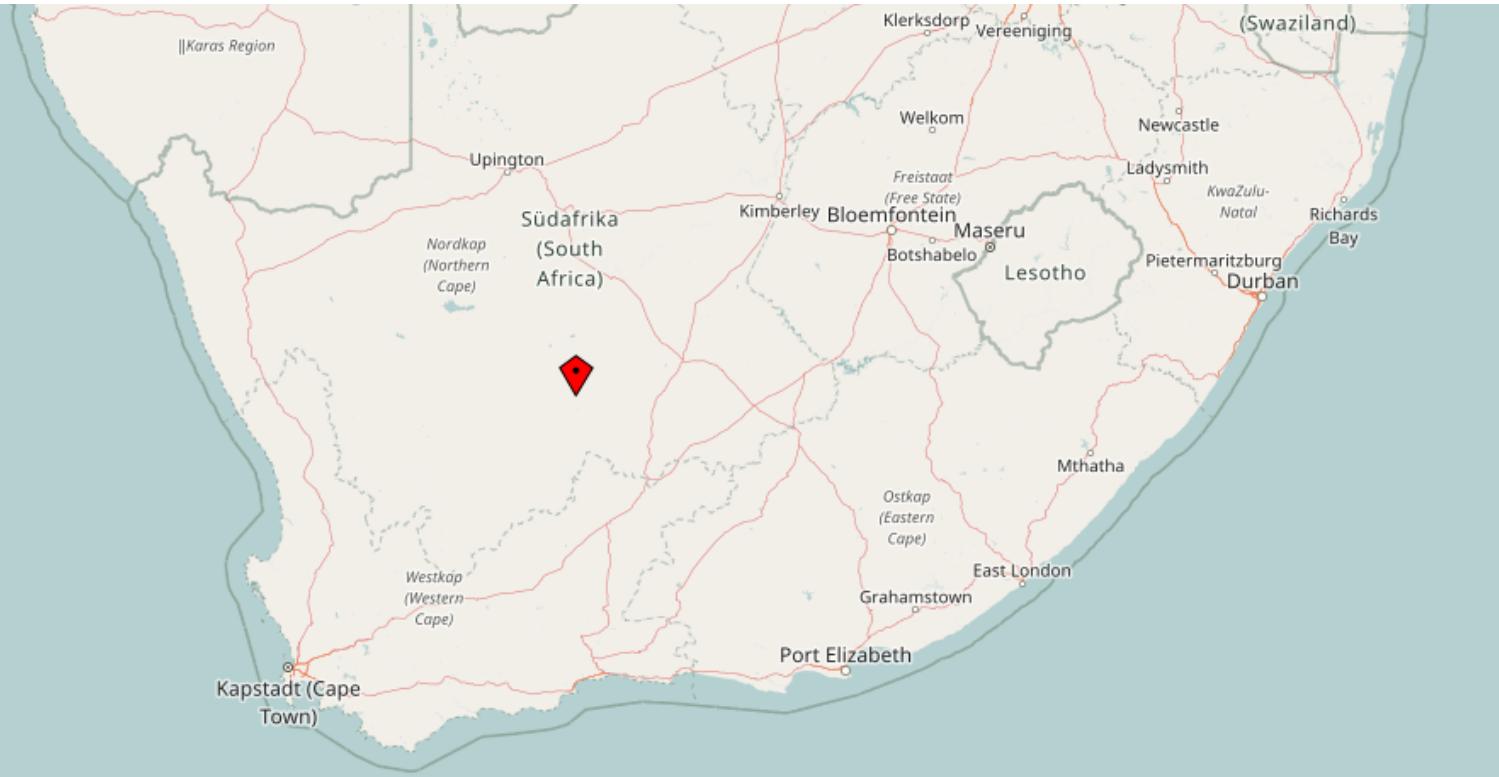
Preventive Measures:

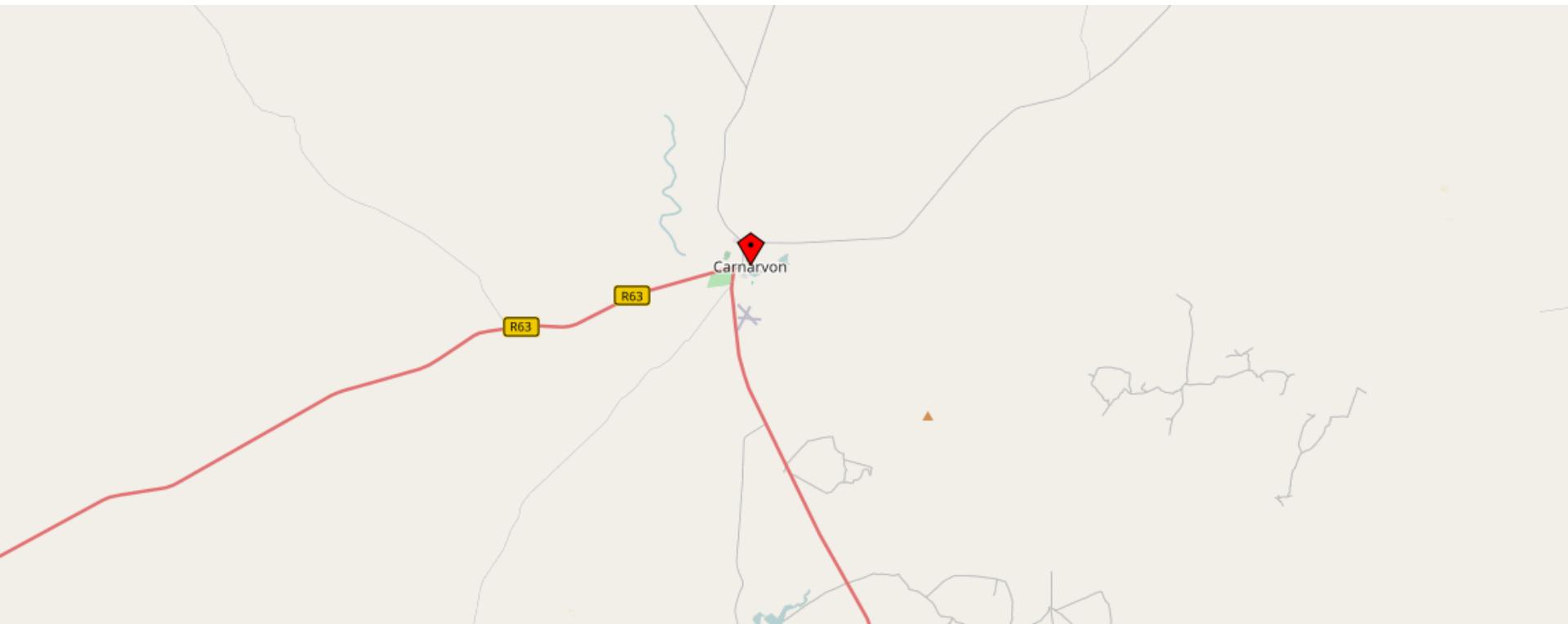
Mosquitoes Nets [[Next Stores](#)]

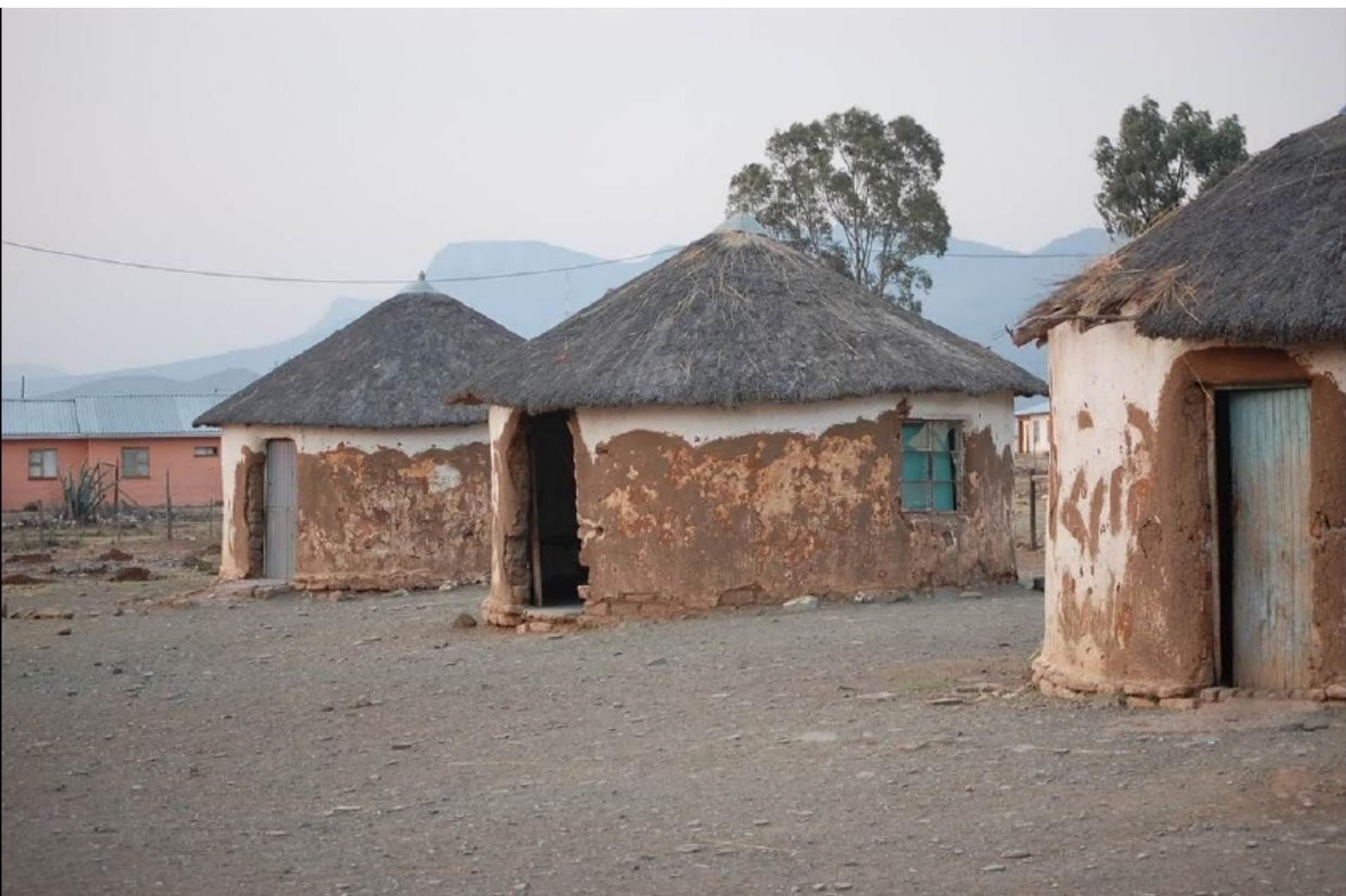
Insect Repellents [[Next Stores](#)]

Keep Windows Closed

[Help]

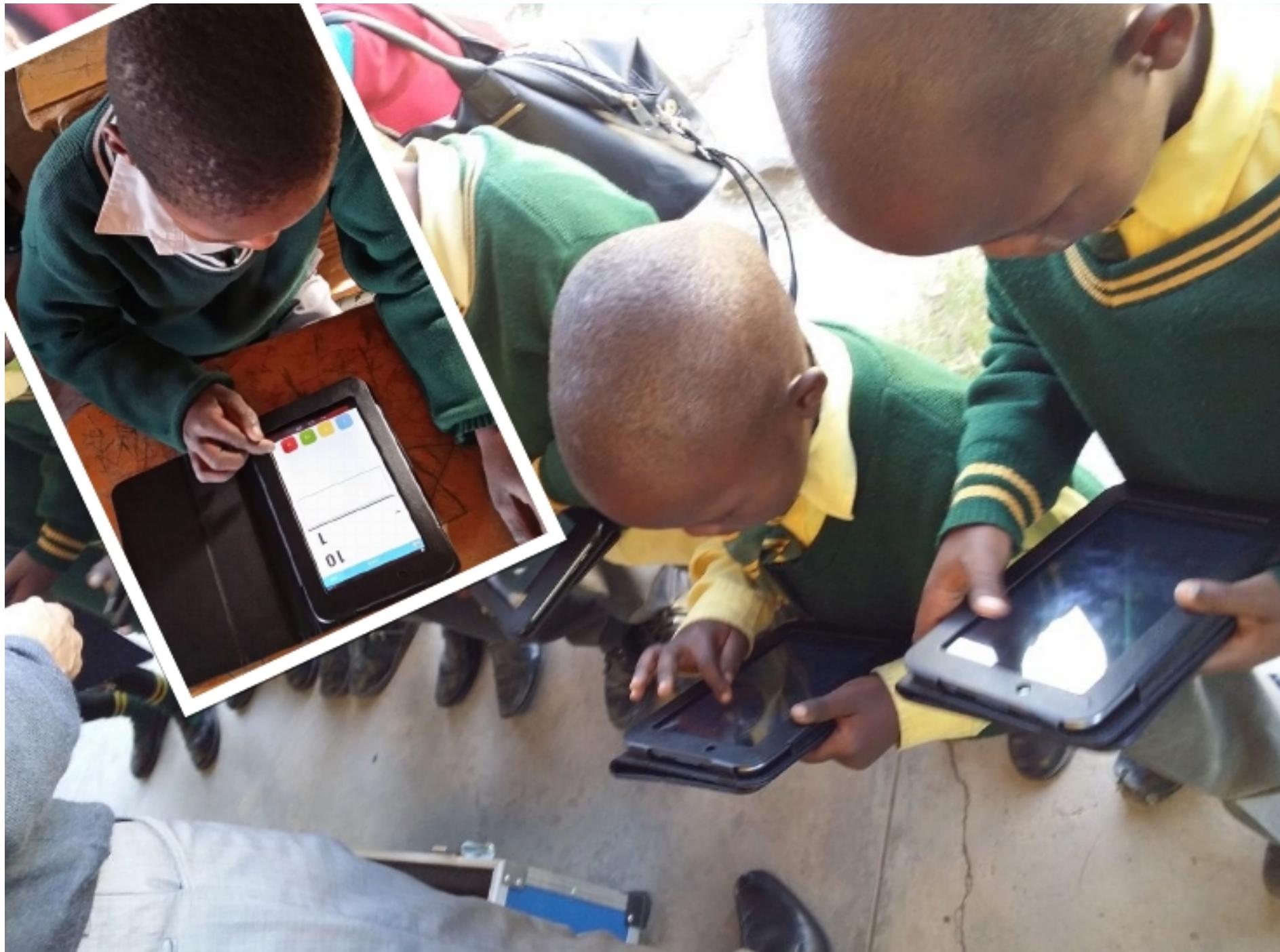






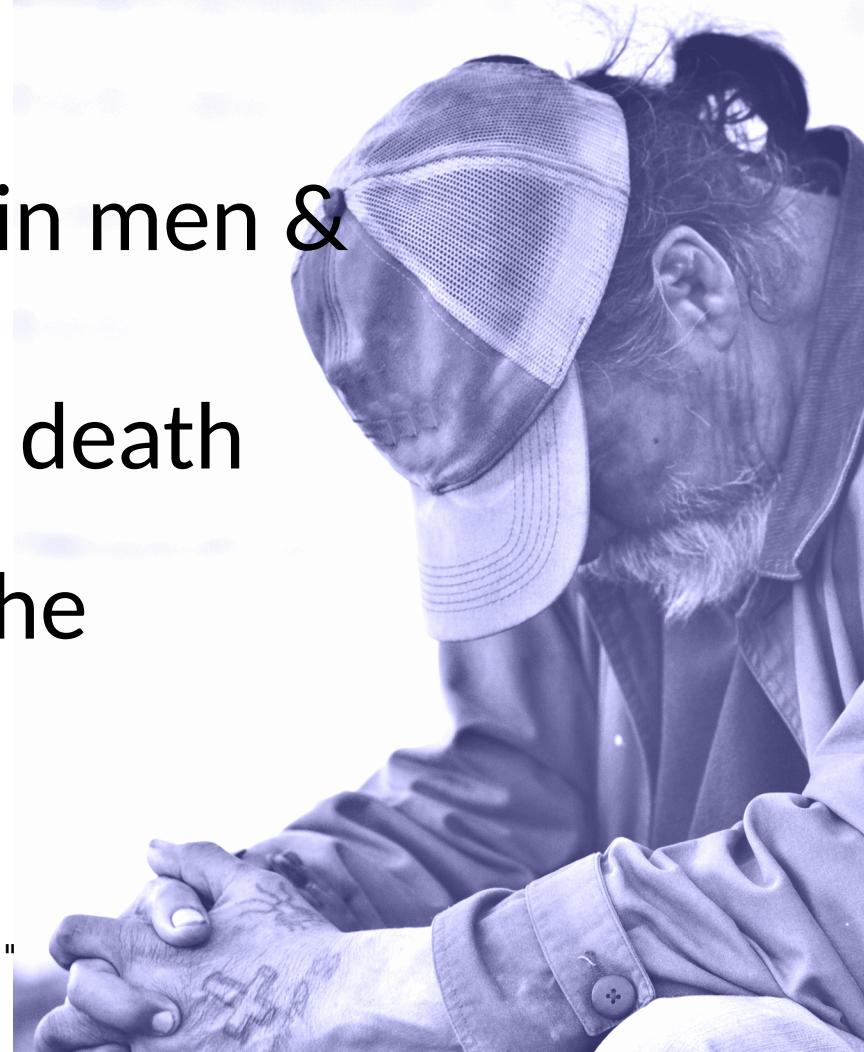


2013/05/09



“ In El Salvador, end-stage renal disease is the leading cause of hospital deaths in adults, the 2nd cause of death in men & the 5th leading cause of death in adults of both sexes in the general population. ”

Orantes, Carlos M., et al. "Chronic kidney disease and associated risk factors in the Bajo Lempa Region of El Salvador: Nefrolempa Study, 2009." MEDICC review 13.4 (2011): 14-22.







The One Health Triad



Holistic One Health Approach

Space

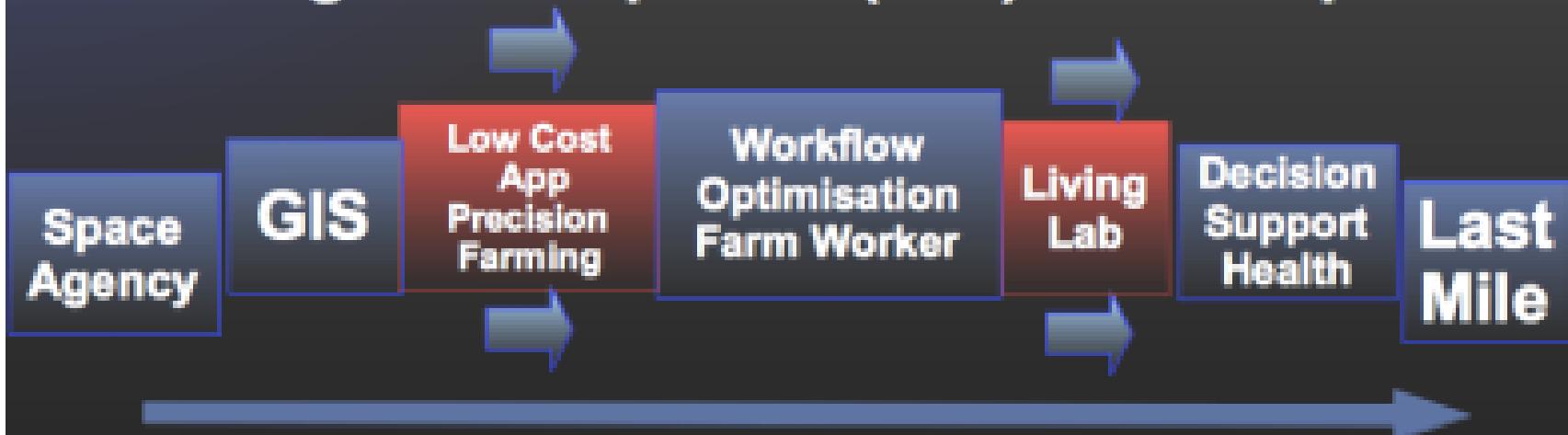


Health



LowCost Precision Farming
GPS-Tailored Decision Support
Monitoring – Health
m-Health Risk Awareness

"Bridge" from Space to (One) Health Impact



9

REGLAS DE ORO PARA REDUCIR EL RIESGO DE ENFERMEDAD RENAL CRÓNICA



10% de la población mundial está afectada por ERC

En Nuestro país, la ERC es la primera causa de mortalidad hospitalaria en hombres

La Diabetes mellitus e Hipertensión arterial son las principales causas de ERC en adultos

Una persona puede perder hasta 90% de su función renal sin presentar síntomas

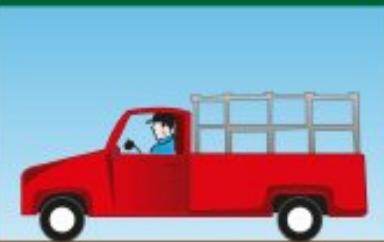
Risk Mitigation Strategies

- Precision farming
- Organic farming
- Risk literacy
- Logistic optimisation
- Workflow optimisation
- Early warning & Decision support

USO CORRECTO DE PLAGUICIDAS



1-Compra y Selección de Plaguicidas
Leer las indicaciones de las etiquetas antes de comprar el plaguicida.
Comprar en lugares autorizados.
Seleccionar los plaguicidas de menor toxicidad para el humano.



2-Transporte de Plaguicidas
Transportar los plaguicidas en los embases originales, aislados de personas, animales y alimentos.



3-Almacenamiento de Plaguicidas
Almacenar los plaguicidas bajo llave, fuera del alcance de los niños y animales y fuera de los dormitorios y cocina.



4-Utilización de Equipo de Protección Personal
Utilizar Equipo de Protección Personal en la formulación y aplicación de plaguicidas. Utilizar: sombrero, gafas, mascarillas, camisa manga larga, pantalón largo, botas de hule, guantes y delantal impermeable.



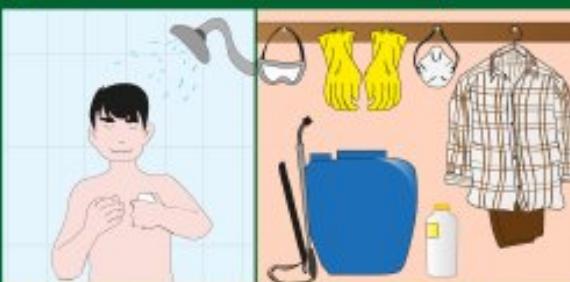
5-Formulación de Plaguicidas
Leer la hoja de seguridad antes de preparar el plaguicida. Diluya la cantidad indicada en la etiqueta. No mezcle cualquier tipo de plaguicida previa asistencia técnica.



6-Aplicación de Plaguicidas
Aplicar los plaguicidas con un equipo en buenas condiciones. No aplique plaguicidas a contraviento. No coma ni fume durante la aplicación. Realice la aplicación en horas de poco calor.



7-Remanentes y desechos
Enjuague con agua limpia tres veces los recipientes sobrantes de plaguicidas y vierta el líquido en la bomba. Perfore o corte los recipientes de plaguicidas y llévelos a un centro de acopio. No vierte los remanentes en ríos, pozos o directamente en el suelo. Aplique el líquido sobrante en maleza de predios baldíos cercanos a su parcela.



8-Aseo personal y limpieza del Equipo de Protección Personal
Después de manipular los plaguicidas lávese bien las manos, lavar la ropa y el equipo de protección personal. Dejar secar todo el equipo fuera del alcance de los niños. Al finalizar la jornada bañarse con abundante agua y jabón.

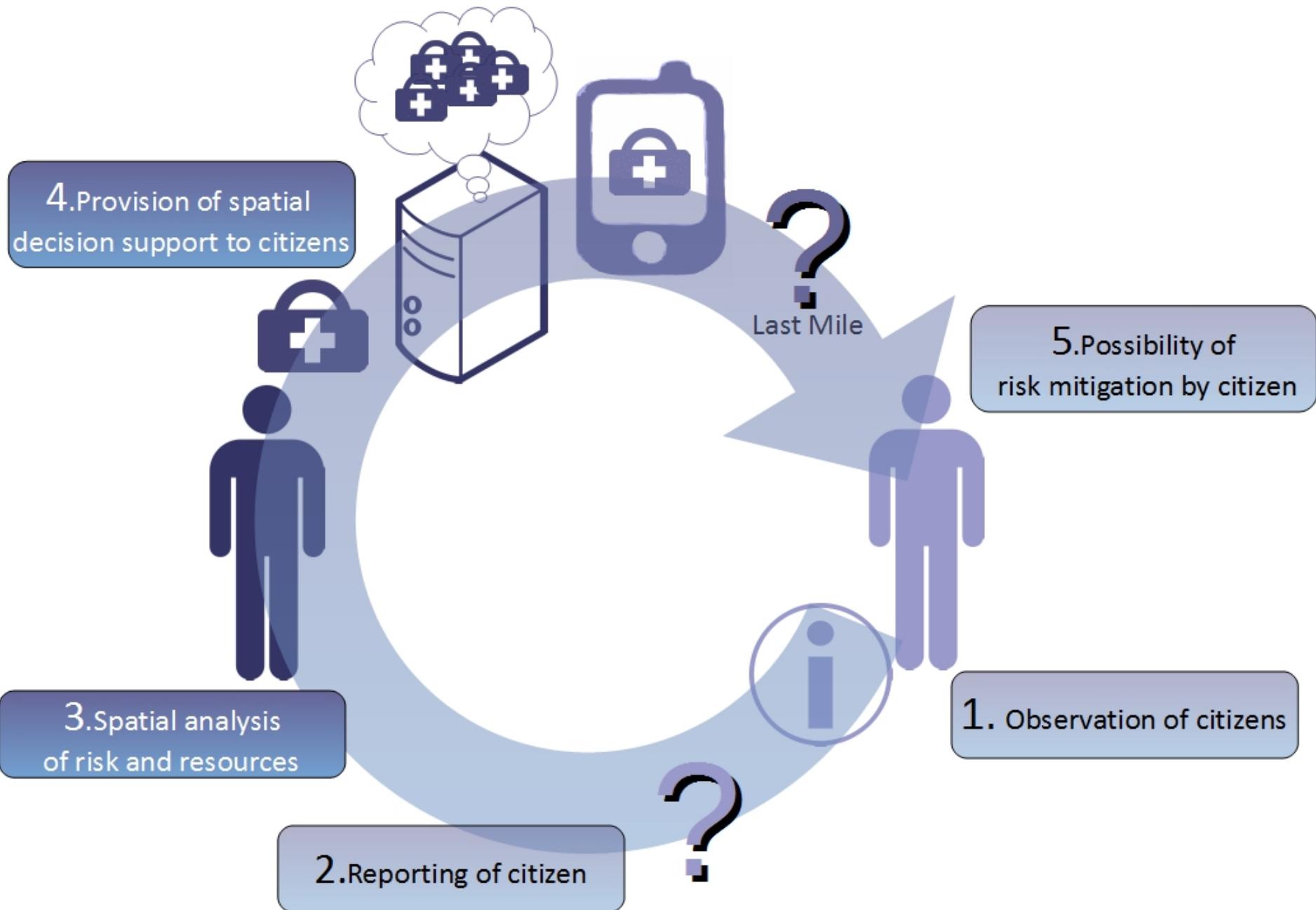
EN CASO DE INTOXICACIÓN

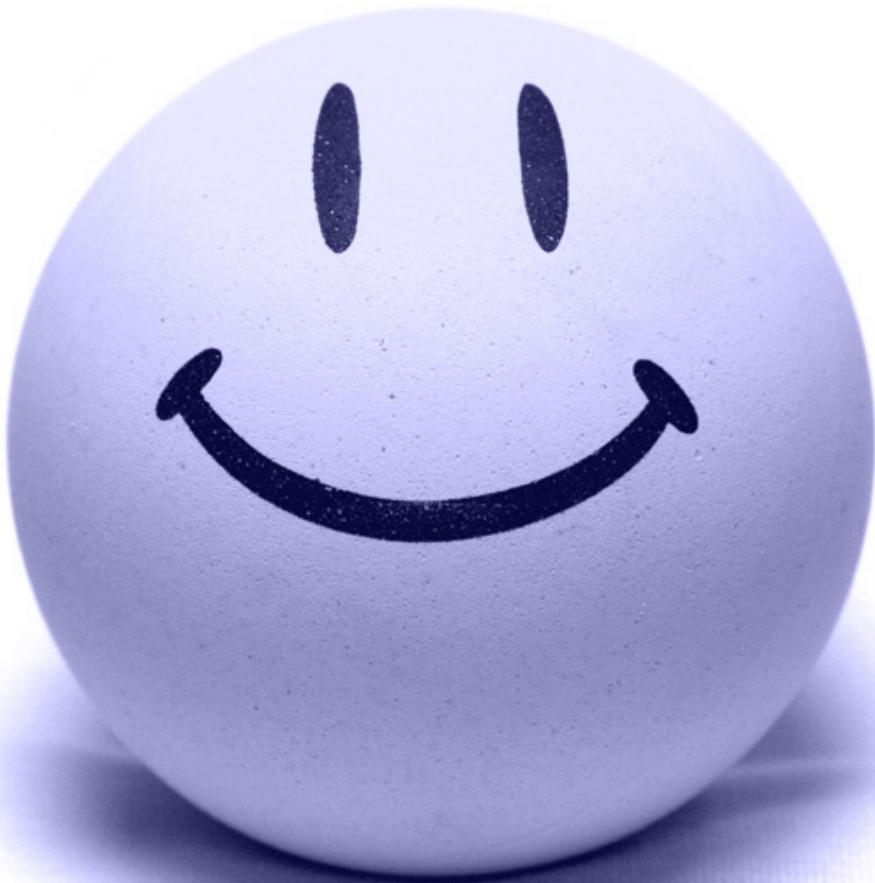


Lea las indicaciones de primeros auxilios en la hoja de seguridad del plaguicida y traslade a la persona intoxicada a un área donde no esté expuesta. Llévela de inmediato al médico más cercano y no olvide llevar la hoja de seguridad del plaguicida.



Utilice la menor cantidad de plaguicida posible y no utilice plaguicidas que han sido prohibidos.





Thank you
for your
Attention!