

ICMGP 2024  
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# Measuring Results of Mercury Reduction Strategies under Minamata NAPs: the case of planetGOLD

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# planet**GOLD**

Making a world of difference  
in small-scale gold mining.

A GEF Initiative

Supported by:












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In partnership with:

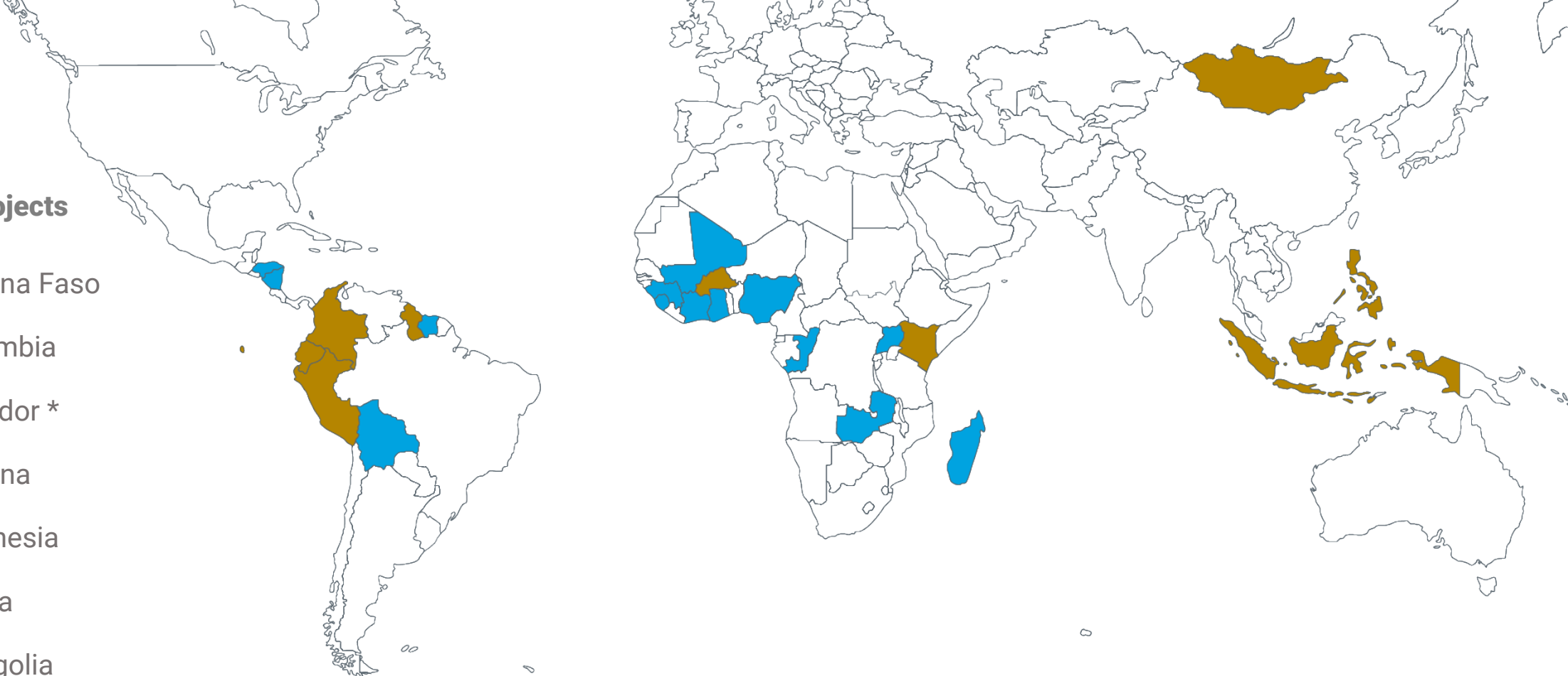


 **Phase 1 Projects**

-  Burkina Faso
-  Colombia
-  Ecuador \*
-  Guyana
-  Indonesia
-  Kenya
-  Mongolia
-  Peru
-  Philippines

 **Phase 2 Projects**

- |   |  |  |  |  |
|---|--|--|--|--|
|  Bolivia       |  Ghana    |  Madagascar |  Nigeria      |  Uganda |
|  Congo         |  Guinea   |  Mali       |  Sierra Leone |  Zambia |
|  Côte d'Ivoire |  Honduras |  Nicaragua  |  Suriname     |  |

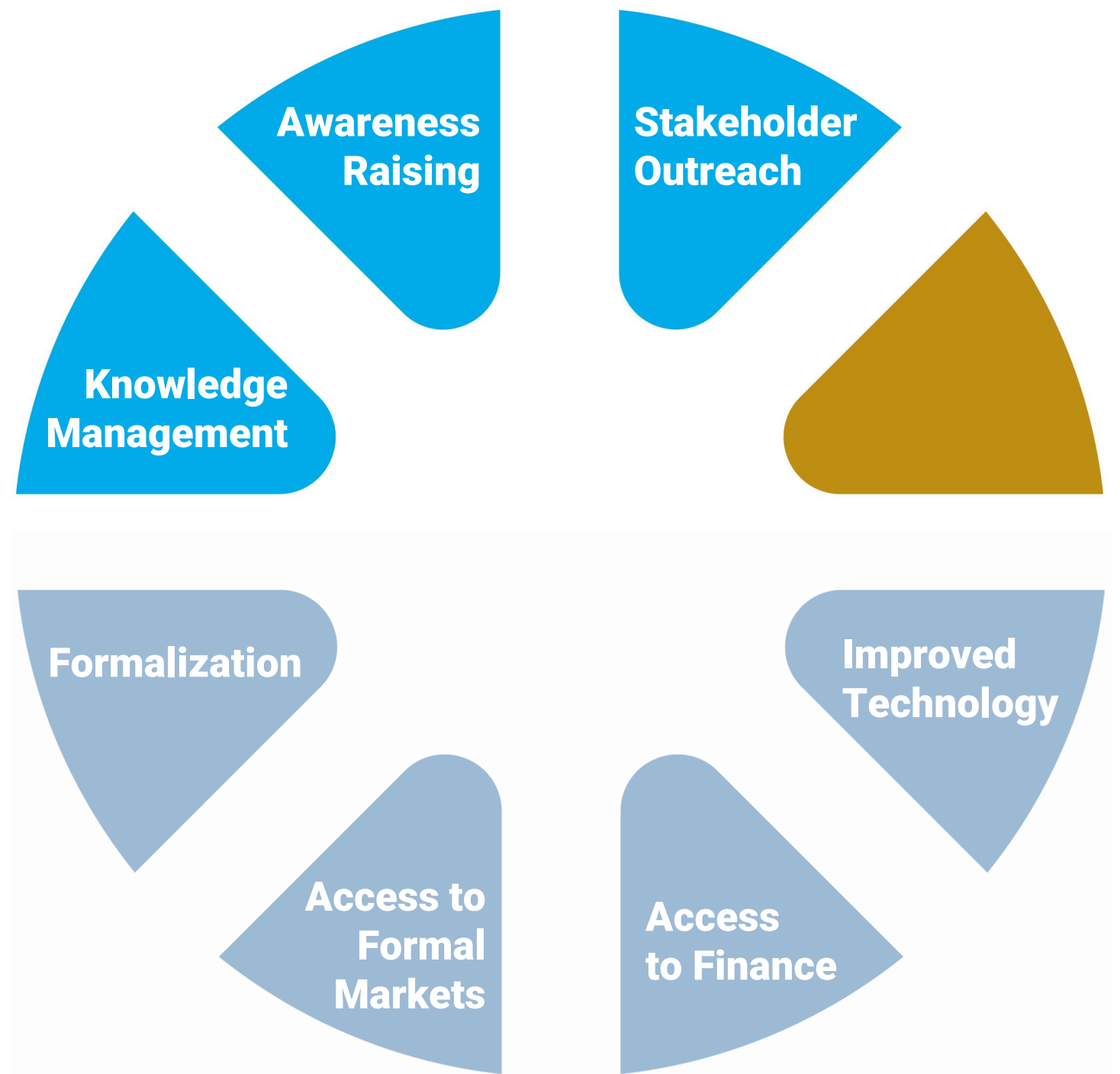


## Mission:

To make small-scale gold mining safer, cleaner, and more profitable

## Vision:

A clean global supply of gold from small-scale miners



## Mercury Abatement

- Amount Reduced/ Eliminated
- Amount Prevented
- Amount Avoided

## Formalization

- Number of miners/mining operations assisted with formalization processes

## Responsible Gold

- Amount responsible gold produced (according to planetGOLD criteria)
- Amount sold to formal markets

## Access to Finance

- Amount of funds made available/ accessed by miners/mining operations
- Number receiving funds

## Mercury use in ASGM



**Hg applied**

**Squeezing:  
Hg recovered**

**Amalgam**

**Burning**

**Gold  
produced**

# Mercury Use

mercury use  
(Hg lost)

=

amount  
applied  
during  
processing

—

- amount recovered for re-use after application
- amount recovered from mercury capture systems during amalgam burning/gold refining e.g., at gold shops

## Estimating Mercury Using the Mercury:Gold Ratio

Au

×

$$U_{\text{Hg}} = \frac{\text{Hg}_{\text{lost}}}{\text{Au}_{\text{produced}}}$$

# Mercury Reduced

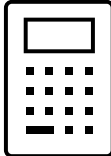
- Change in amount mercury lost to the environment as a result of introducing processes that reduce mercury lost per unit of gold production
- *Examples: converting from whole ore to concentrate amalgamation; introduction of retorts*
- *Calculation:*

$$Hg_{reduced} = (Au_0 * U_{Hg0}) - (Au_1 * U_{Hg1})$$



# Mercury Eliminated

- Change in amount mercury lost to the environment as result of introducing mercury-free gold production processes

-  *Calculation:  $Hg_{eliminated} = U_{Hg0} * Au_0$*

# Mercury Eliminated

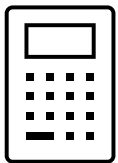
- *Example: installation of a new mercury-free process that replaces existing Hg-based process*



# Mercury Prevented

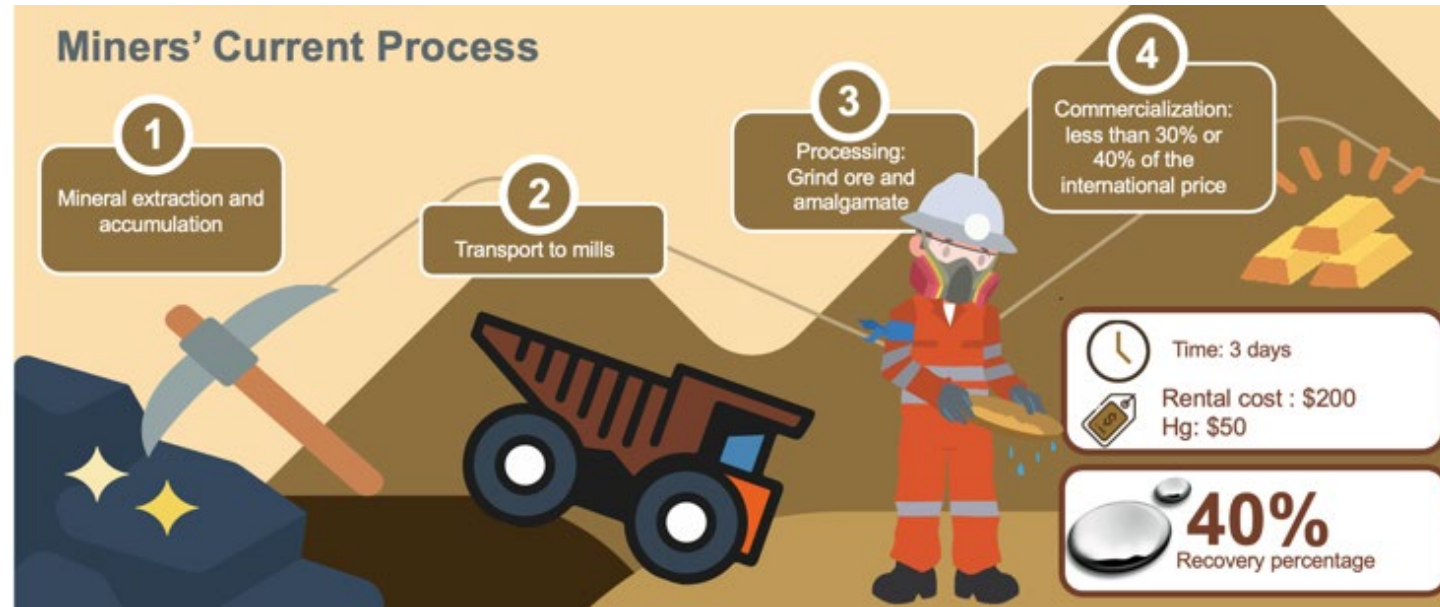
- Change in amount of mercury loss ***assumed to*** be prevented by the introduction or ongoing support of mercury-free methods
- Used primarily when mercury use is illegal

*Calculation:  $Hg_{prevented} = U_{Hg0} * Au_1$*

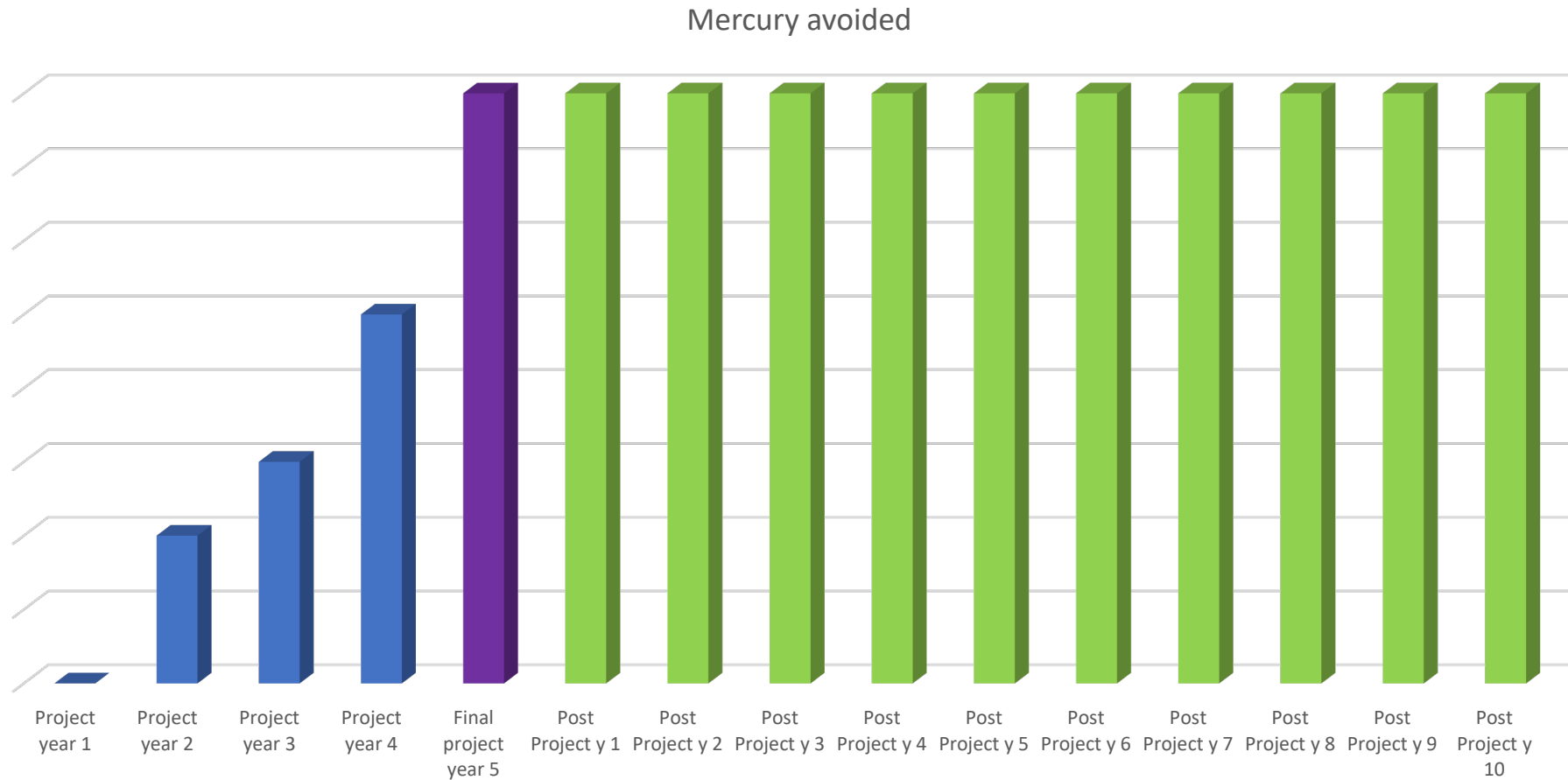


# Example

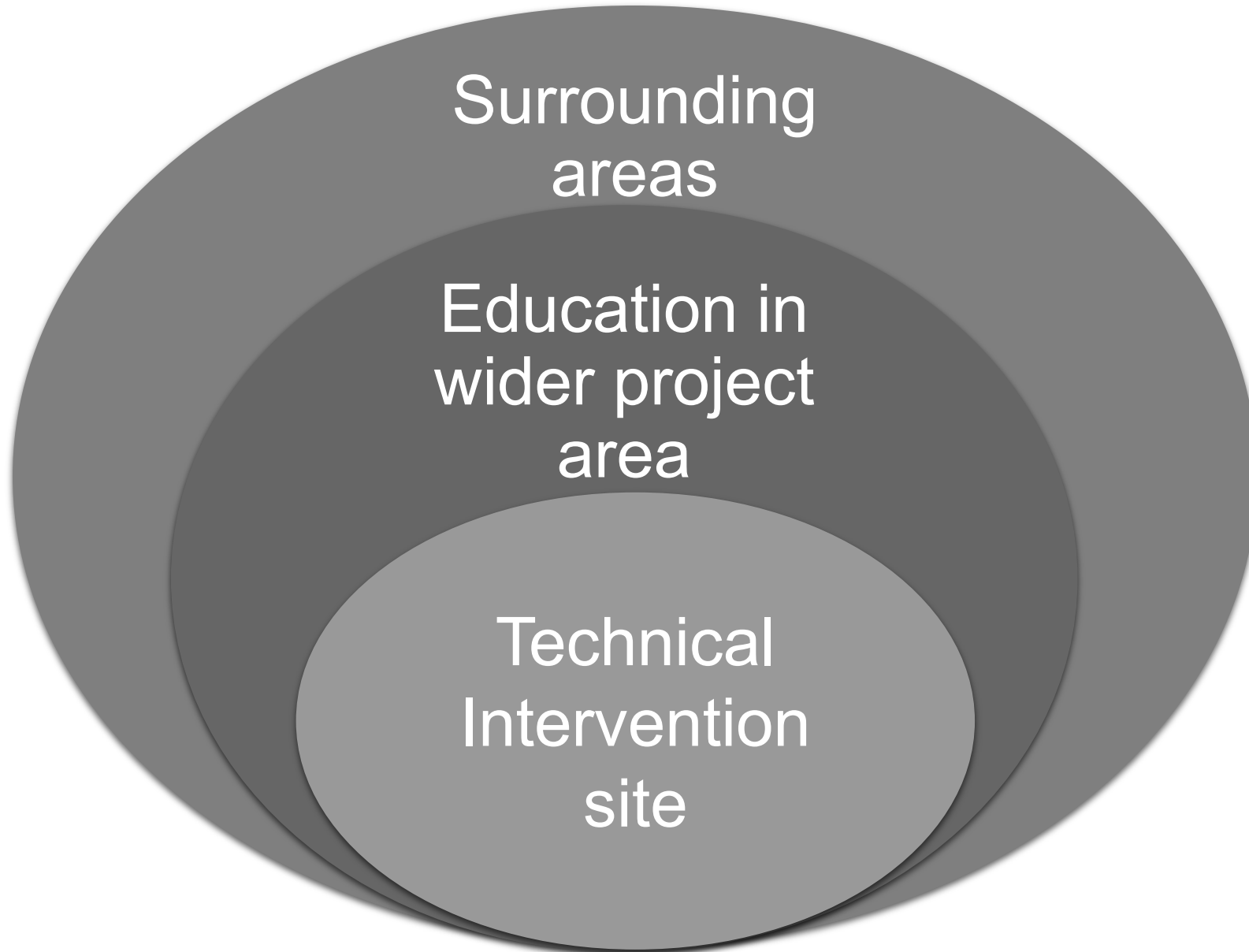
Courtesy: planetGOLD Ecuador



# Mercury Avoided (Future)



## Technical and Educational Impacts



# Thank you

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