

Assessment #2 PHYS-392. Please do all the problems. I only have to recognize that you know what you're doing.

1. Barbara Smith found that delivered and then inspected mosquito nets in Zambia.
  - a) What is special about peoples' homes in her community that presented challenges for her work?
  - b) What did she do to help make things work?

a) people in Zambia are not generally comfortable w/ letting strangers into their homes so trust had to be established.

A

b) Barbara put effort into learning more about the culture and language so that they could explain to the locals what they were doing and then they could be more easily let into people's homes.

2. Amy Degenkolb spoke with us about her efforts to get postpartum hemorrhage prevention technology accepted in the USA. Additionally, Nathan Bair and Sara Della Ripa spoke about their work with the same device in poor countries.

- a) Briefly describe how the device works.
- b) Everyone agreed that the device is disposable, one-time use, but they made it so it could be reused. Why is that?

a) The device uses suction to remove blood from the women's uterus while also forcing it to compress and close the blood vessels in order to stop bleeding.

A

b) This is b/c many clinics receive shipments infrequent so if all the devices have been used, they may reach a point where an old device must be reused in order to save lives, therefore reusability is important.

a) Homes are very private & it is not usual for community members to welcome non-family members into their home

b) She would have an established community member help her communicate / called her a sister-in-law

A

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a) Uses suction to stop hemorrhaging *how?*

b) Reusable incase they run out - because every doctor cares about their patients and will do the most they can to save a life.

A -

3. We saw a video about a water pump technology introduced by EWB. The person in the video expressed great sorrow in describing how the project didn't really work. Then he described a change in structure/culture of EWB. Please describe that change.

The change in culture was towards one of more open acceptance of failure. This manifested physically in the failure report that EWB began publishing which was an update of all the organization's failures.

A

4. What is a Schmutzdecke and how does it assist in purifying water?

This is a natural biological layer of bacteria that is grown over the course of a month under specific conditions within sand/rock filters. This layer helps to naturally remove harmful bacteria and diseases from the water when filtered through it.

A

A culture of admitting failure so everyone can learn about/learn from these mistakes.

A

4. What is a Schmutzdecke and how does it assist in purifying water?

A schmutzdecke is a layer of predatory bacteria that accumulate/grow on top of a slow-sand water filter and help prevent viruses, such as e. coli, from being consumed by the public.

5. Extra Question that can replace any of the above:

- Why did Nick say that Global Capitalism causes the demise of the small coffee farmers in Costa Rica?
- How did the AgroEcology technologies they introduced help mitigate farmers' problems?
- What was special about Nick's project that would qualify it as "action research"?

a.) The farmers don't make as much money because the price of <sup>Fertilizer/</sup> coffee dipped so low. People buying and selling the stocks controls "how much the farmers can make. Fertilizer was too expensive as well.

b.) The farmers no longer had to clear out acres of trees to farm coffee beans, they used new methods of having various shrubs and trees "mixed in" with the coffee plants. This method kept the soil very fertile, no longer causing farmers to buy expensive fertilizer.

c.) I don't know why it's called "action research." Is it because he was actually there helping them with machetes create a new ecosystem around their farm?

A

① Nick said that global capitalism causes the demise of the small coffee farmers in Costa Rica because the market sets the price of coffee — not the needs of the farmers. When the market price of coffee dropped, the industry responded by lowering the price of beans, affecting all of the farmers instead of setting the price of coffee based on what it costs to produce.

② By encouraging their agroecology technology of shaded tree coffee farms, the farmers could use fewer inputs like pesticides and fertilizer which helped with their profits.

③ While Nick did explain that it wasn't the most participatory research, it does qualify as "action research" because he worked cooperatively with the farmers to teach agroecology methods.

A