Ryberg offers us three diagrams to help represent the kinds of cycles that Hardin discusses:

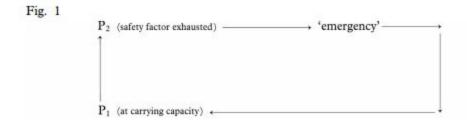


Figure 1 represents the natural cycle that a group of isolated humans, with no effective birth control, would face. P1 represents the maximum amount of people that an environment can sustain. P2 represents an overpopulation of this environment. The 'emergency' represents a population reducing even (e.g. famine). Eventually, enough people die and then the population regenerates until the cycle begins again.

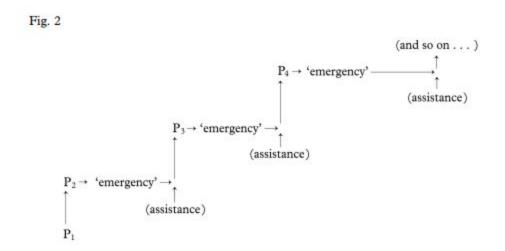


Figure 2 represents that same population if they received outside assistance when the emergency occurs. Instead of the population starting over at P1, outside assistance results in a new threshold for what constitutes an emergency. If their environment can sustain X amount of people, and outside assistance can sustain Y, then the combination of those two amounts (X+Y) creates a new base level (P3, P4, etc.). As Ryberg sees it, this is what Hardin sees as dangerous about giving aid. Dropping from P4 back to P1 would be horrific. Given these two options, Hardin opts for the first.

Ryberg, however, thinks that this is a false dichotomy. First, actual lifeboats have specific limits regarding weight capacity and passenger placement in order to avoid capsizing. The Earth will not capsize. Instead of an emergency knocking us from P4 to P2 or P1, Ryberg thinks it more likely that the following will occur:

Fig. 3
$$\begin{array}{c} P_n \rightarrow \text{ 'emergency'} \rightarrow \\ P_{n-1} \leftarrow \\ \uparrow \\ P_{n-1} \leftarrow \\ \uparrow \\ \text{ (assistance)} \end{array}$$

$$\begin{array}{c} P_3 \rightarrow \text{ 'emergency'} \rightarrow \\ \text{ (assistance)} \\ P_2 \rightarrow \text{ 'emergency'} \rightarrow \\ \uparrow \\ \text{ (assistance)} \end{array}$$

We could adapt to just under what the Earth's carrying capacity is. P_{n-1} is just under capacity, and P_n is what causes the emergency.

The upshot is that until we reach P_{n-1} then we, Ryberg claims, can and should provide assistance to the global poor. Ryberg is aware that once we get to P_{n-1} , then we may need to cease increasing aid, but we also needn't have a global catastrophe as Hardin claims that we will.

Thus, the real issue between the two is how much life the earth can sustain. This doesn't just relate to food, but also pollution as more people will create more waste and use more natural resources. Hardin seems to want to keep the population low, whereas Ryberg is fine with the Earth being 'maxed out'.

Additional criticisms of Hardin would likely highlight the fact that though the United States contains only 4-5% of the Earth's population we consume 20-25% of its natural resources. Hardin worries about a global catastrophe caused by a surplus of poor people needing food and using up resources, but it seems more likely that the US is just as likely to be creating a future catastrophe by gobbling up resources and creating pollution. Given that Hardin is a consequentialist, it seems like this is a real problem for his position. Surely it is not a sufficient reason to be left to die solely because you are poor - it has to be (for Hardin) because of the consequences. If the issue is resource allocation, however, then Hardin must be assuming that this will produce the best consequences, and that seems unlikely.

Finally, it is unclear why Hardin is so adamant that lifeboats are individual countries. First off, just to challenge his metaphor just a bit, in emergency cases lifeboats can be brought into close proximity to each other so that resources can be shared, space maximized, and as many people pulled from the water as possible. Hardin, however, claims that we risk capsizing if we even try to pull people out who don't 'belong' in our boat. Second, if the serious issue is resource allocation, then I fail to see a reason that the rich in any given country ought to give any aid to the poor in their country. If rich countries are supposed to let the poor countries die off, then by

parity of argument the rich in each country should let their country's poor die off. It is absurd, however, to claim that because certain people were born poor, that the moral thing to do for them is to let them die so that the rich can have the planet. Coupled with Ryberg's paper, perhaps there is a tipping point where we shouldn't help the poor, but Hardin has not given us evidence that we are there.