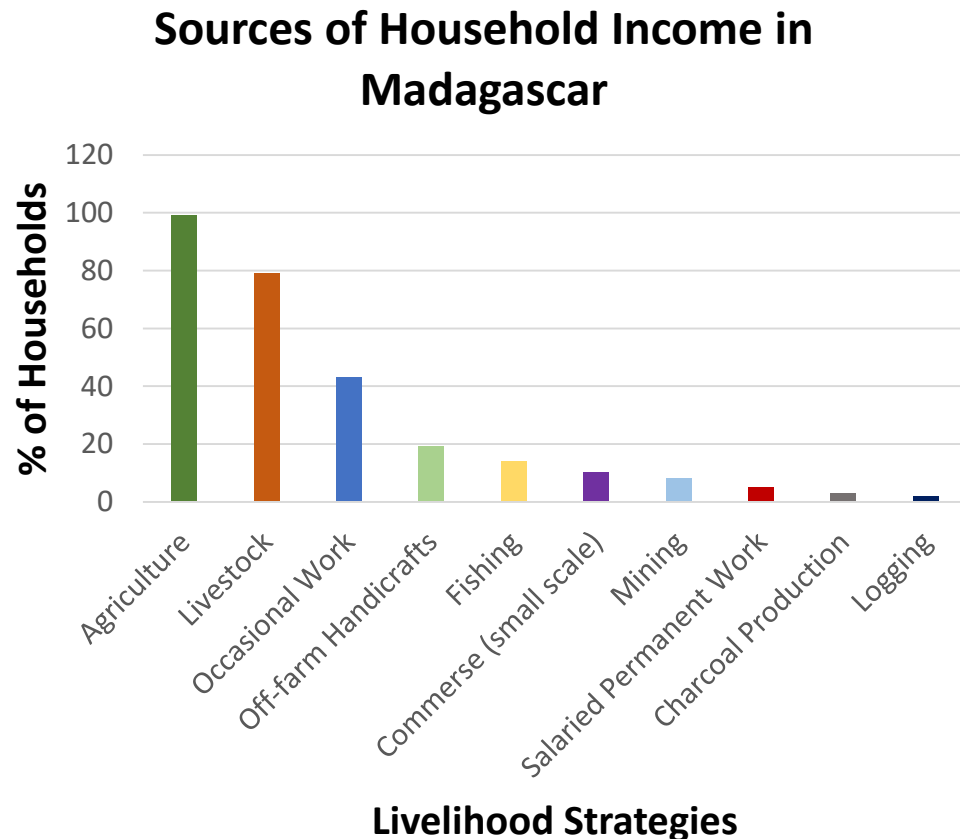


Understanding Cultural and Ecological Carrying Capacities for Rare Carnivores in Andasibe National Park

Kimberly Rivera



- Native carnivores are perceived to predate poultry which has led to persecution of endemic and declining carnivores.
- What **variables** cause carnivores to switch their diet from native prey to chicken?
- How do **these variables** impact the sensitivity of chicken predation by carnivores?

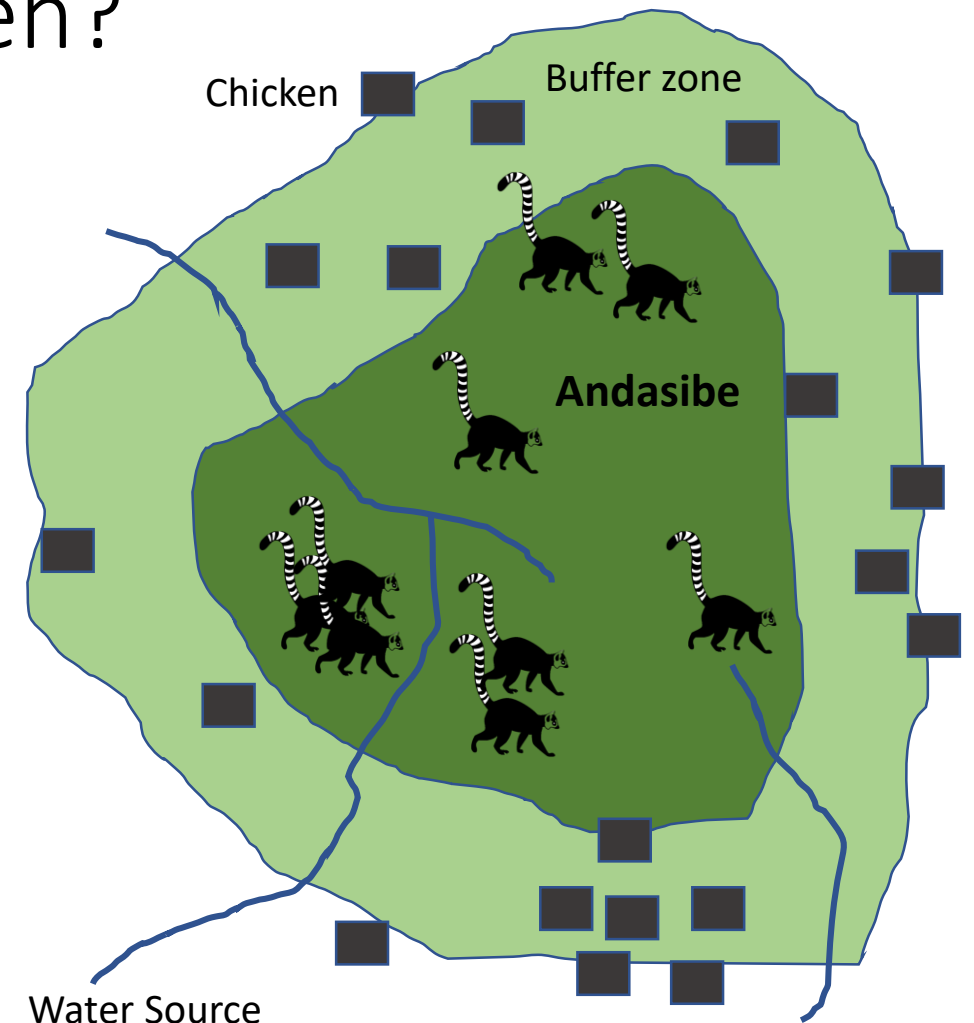
Thank You

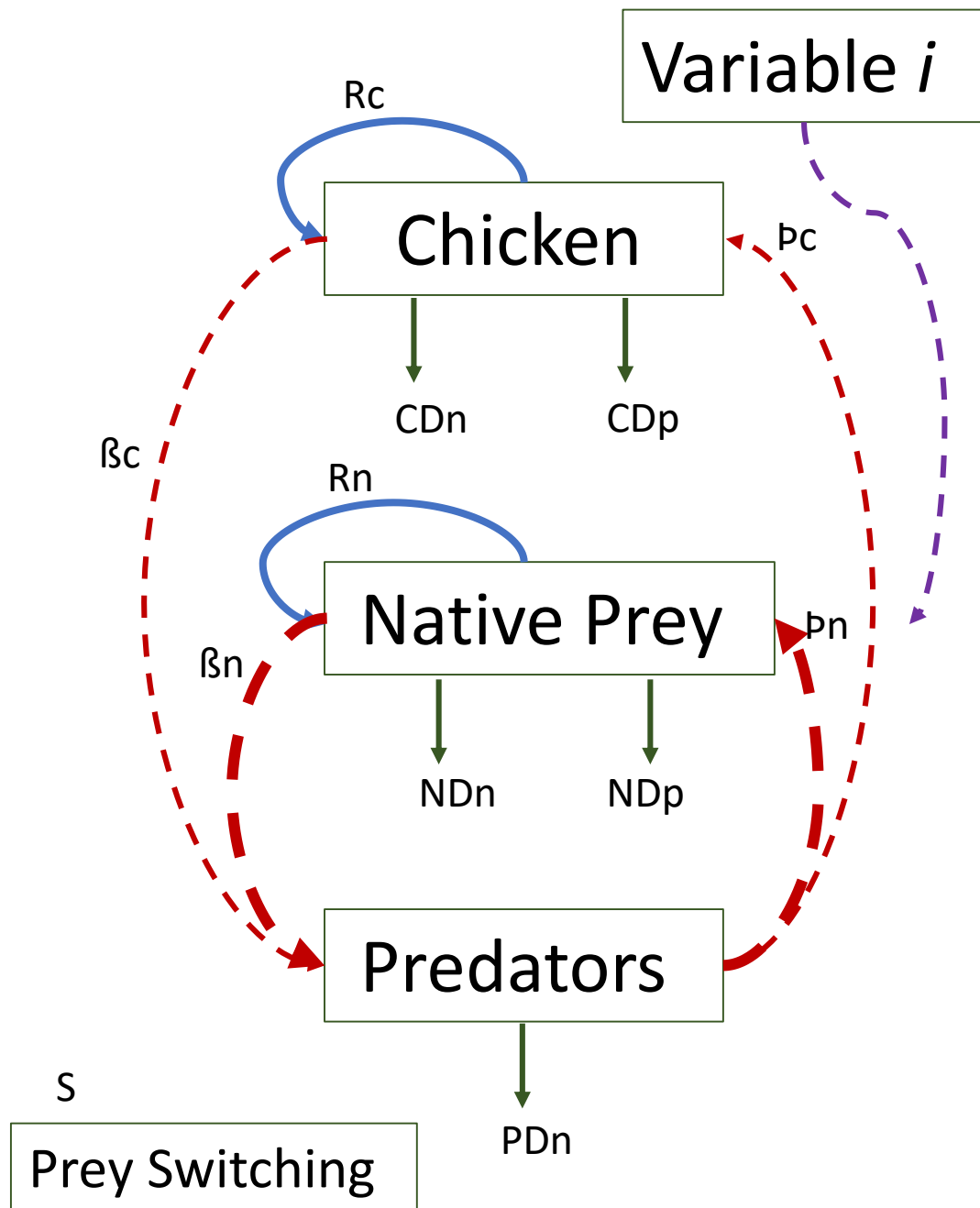
Anecia, Liantsoa, Vero, Nancia and Rindra

What variables cause carnivores to switch their diet from native prey to chicken?

- X = Causal Variables (distance to forest, abundance of native prey, abundance of chicken, abundance of carnivores, distance to water, etc.)
- Y= Prey Switching (rate at which carnivores change their prey from native animals to chicken)
- Hypothesis: Abundance of predators will directly relate to prey switching while prey abundance and distance to forest will indirectly relate to prey switching.
- I hypothesis these data will have a gaussian identity with normal distribution

```
glmer(preyswitch~preyab + d_forest + np_abun +c_abun +  
pred_abun (1|pred_prey), family= "gaussian")
```





How do **these variables** (distance to forest, abundance of native prey, abundance of chicken, abundance of carnivores, distance to water, etc.) impact the sensitivity of chicken to predation by carnivores?

R_c : reproduction rate of chicken

R_n : reproduction rate of native prey

β_c : reproduction rate of fosa fed by chicken

β_n : reproduction rate of fosa fed by native prey

CD_n : natural death rate of chicken

CD_p : predation death of chicken

ND_n : natural death rate of native prey

ND_p : predation death rate of natural prey

PD_n : natural death rate of predators

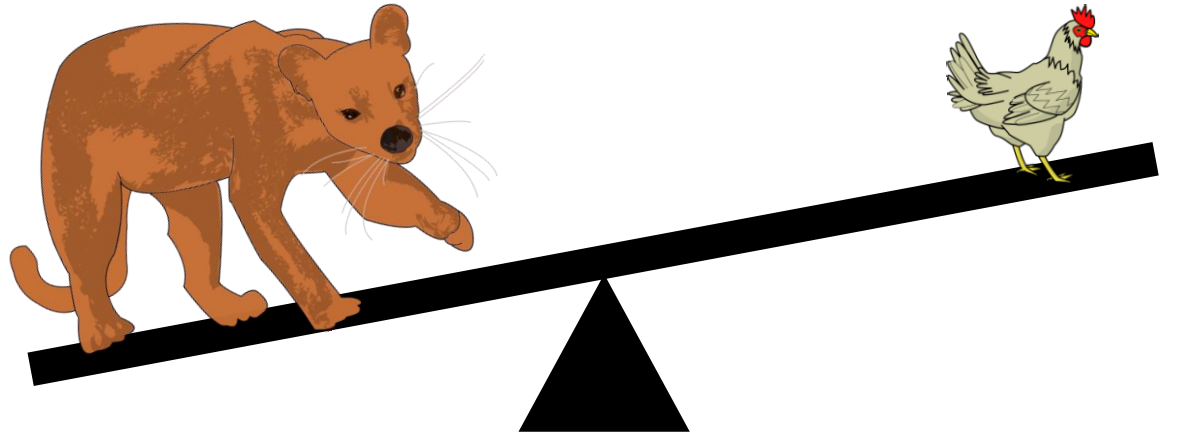
p_c : predation of chicken by predators

p_n : predation of native prey by predators

S : rate that predators switch prey

Future Steps

- Conduct household surveys around Andasibe to better understand study system like chicken dynamics and variabilities between homes
- Adjust model based on preliminary data and field dynamics (maybe age of chicken should be considered or chicken disease)
- Collect more data, improve model, and improve wildlife-conflict!



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