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Sustainability in Health Condition of the People Living in Rural Province of Zambia

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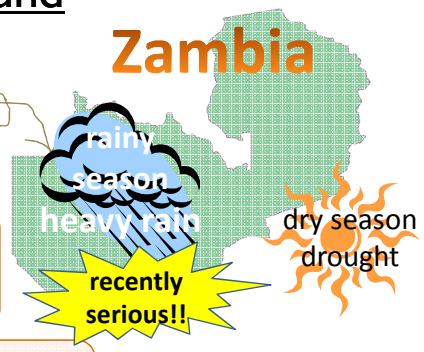
Background



Heavy rain damages crops

Food provision is decreased

Villager's nutritional and health condition is changed

How do they keep?

They have to keep their health condition

Because they are depending on farming

tomato

cabbages

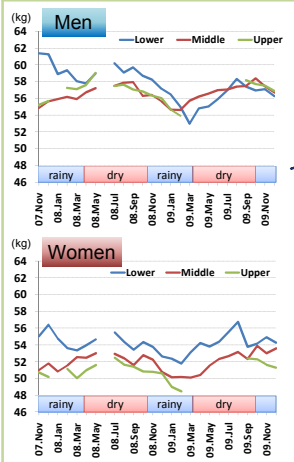
cultivating with cattle

Our Investigation

sample area

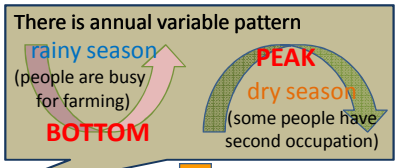
✓We are conducting longitudinal body measurement
✓Nov/2007～going on
✓Subjects: Total 48 households living in the three areas in southern province which are different ecologically
(Lower flat land zone, Middle slope zone, Upper flat land zone)

Variable pattern of weight for ADULTS (over 18 years old)



✓These graphs show the mean value of subject's weight in each site.
✓The data of Jan/08, Mar~Aug/09 at upper flat land zone and June/08 at all site could not be gotten.

There is annual variable pattern



changing?

✓kinds and amount of food
✓daily activity

dietary & physical activity survey
✓Aug～Sep/2010 (dry season)
✓To know energy expenditure & intake, nutritional intake
✓Actually staying with villagers during investigations.

Objective

✓To reveal what are important factors for rural villagers to keep their nutritional and health condition

We can understand how people who are living in rugged environment maintain their health condition!!

Dietary Survey

✓Weighing all foods a villager ate in a day (photo 1,2)
✓Their staple food 'nshima' made from maize (photo 3)
✓'Kapenta' is important as source of protein in villages (photo 4)
✓ Women and children generally eat together from pots after household head eats (photo 5)
✓ Using own plate specially for weighing their share (photo 6,7)

1

3

4

2

7

6

5

Physical Activities & Behavioral Survey

✓ 'Accelerometer' counts their steps and automatically calculates the total energy expenditure (photo 1,2)
✓ 'Pocket GPS' records location where they are, distance they move, and velocity during moving (photo 1, 2)
✓ Explaining research to villagers through a local assistant (photo3)
✓Drawing water is women's work (photo 4, 5)
✓ Making bricks to build a school (photo 6)
✓Women have league match of 'netball' (photo7)

3

4

5

6

7

Further Analysis & Next Challenge

- ☐ Comparing energy balance & nutritional intake among three sites, between sexes
- ☐ Relation with socio-economic status of each household
- ☐ Conducting same research in rainy season to reveal the important factors related to seasonal variation of nutritional status

This study was conducted as a part of the project E-04 of the Research Institute for Humanity and Nature.
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