Understanding causal factors leading to undernutrition

Link NCA-Nigeria (Dec-May 2017)
Nangere LGA, YOBE State

Presenter:
Md. Main Chowdhury, Head of Nutrition and Health, Action Against Hunger, Nigeria Mission
Acknowledgement

- **DFID**: Donor
- **Participants**: Government, International and local NGOs, Partners
- **Action Against Hunger – Teams**: NUT-WASH-FOOD-SEC; LOG-HR-FIN; CD; Program teams
- **Communities of Nangere LGA**
- **Locals authorities**: Emir of Nangere, Chairman of Nangere
Outline of the presentation
1. Methodology Link NCA-NG
2. Findings by hypothesis
3. Final categorization of the hypothesis – Causal scheme
4. Presentation of the recommendations by major risk factor hypothesis
5. Conclusion and discussion

Figure 1. UNICEF Framework of malnutrition
Overview of Comprehensive Link NCA study

1. Preparatory phase
2. Identify hypothesised risk factors and pathways / Preliminary Workshop: 30th January - 22 hypothesis
3. Data collection / 2 surveys
4. Analyzing results and building a consensus / Final Workshop: 8-9th May
5. Communicating results and planning for a response
22 hypotheses: 5 sectors (Nut., Health, Food Security, WASH, Protection)

- Secondary data (Reports, Survey, article)
- Quantitative study: RFS (Risks factors Surveys)
- Qualitative study: Socio-cultural approach (with local anthropologist, translators)

Triangulation of the results

- Participation of the communities and partners (internationals, locals) during all the process (validation of hypotheses and results): Consensus

SMART

510 households (30 clusters*17 HoHs)

RFS: Risk Factors Surveys

530 households (30 clusters approx)

Qualitative study

5 villages

DESIGN

GAM(WHZ) at 14.6%
Stunting: 68.3%

57 Indicators
29 Core indicators
17 Optional indicators
11 Local indicators

5 sectors-5 days
61 FDGs
80 interviews
30 interviews Nutrition
39 Visit-observations
Degradation of nutrition security: Situation of chronic under-nutrition (stunting) + Serious situation of acute undernutrition (wasting)

The granary of Yobe?

Local context → Yobe context → Northern Nigeria Context

Criteria: Homogeneity - Stability – Representativeness (no NGOs intervention)

Why NANGERE LGA in YOBE STATE?

- One of the 17 LGAs located in Yobe State.
- 151,344 persons (1,183km²).
- 11 Wards (Chukuriwa, Dawasa, Kukuri, Watinani, Dudduye, New Nangere, Tikau, Dazigau, Chilariye, Degubi and Langawa Darin)
- 461 villages in Nangere LGA
- The main crop and livestock markets are also located in Potiskum and Dawasa markets.
Hypothesis Risk Factors
Secondary data review, presentation and technical expert’s consultation concluded agreed on 22 hypothesis as initial causal pathways.

- 5 hypothesis directly linked nutrition & care practices
- 4 hypothesis linked with health care services and system
- 5 hypothesis linked with Water, sanitation and hygienic practices
- 5 hypothesis linked with food insecurity
- 3 hypothesis linked with protection
Findings by sector

Nutrition
Health
WASH
Food security
Protection
Nutrition & care practices

Rice

Pap

Local spaghetti
REASONS: Lack of food? Lack of social network? Diseases (malaria, diarrhea)?
fever/malaria (48.5%), cough/ARI (5.2%), diarrhea (3.7%), skin infections (3%) and multiple infections

SEASONALITY

“Before we used to suffer just July-August, sometimes June. Now you can start to see undernourished child since March-April.”
**Definition: Tamua**

- “Lack of food”, “lack of nutritious food”, “lack of money”, “Hunger”
- “Rana” and “Olsa”: increase of case since 3-4 years

**Description:**

- “Frighten skin, skinny body, change of skim and hair color, low birth weight, skin swelling and shrinking, fever, lack of strength, yellow eye”
- No food taboos, no believe correlate with undernutrition, no “grigri”

**Nutritious food:**

- Man: Bean, rice, meat, fish, Yam (few vegetable and fruit)
- Woman: Bean, spaghetti, macaroni, rice, oil (no meat, very few vegetable and no fruit)

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**Pregnancies and Birth**

**Place of birth:** 90% at home

**Network of birth:** 40% BA, 35% entourage, 25% alone

**Pregnancy diet and health:** medicinal recipes
Colostrum:
- Habits: wait 1-2 days, water first, empty the breast (ancestral technic)
- Why: “can induce malnutrition” “old milk” “can cause death” “not nutritious”

Breastfeeding:
- Lack of breast milk
- No frequency

Water:
- First day – Boiled during 40 days

Pap:
- 3 months and bellow

BA-Mothers-Vulnerable mothers
**Introduction of solid, semi-solid, soft food (6-8 months)**

- 86.9%

**Infant Diversity Diet Score:**
- 68.17% eat 4 food groups or more
- 31.83% eat until 3 food groups
  - *cereals, dark green leafy, veggies*

**HDDS:**

<table>
<thead>
<tr>
<th>Group 1 HDDS&lt;3</th>
<th>Group 2 HDDS 3-4</th>
<th>Group 3 HDDS 5-6</th>
<th>Group 4 HDDS&gt;6</th>
</tr>
</thead>
<tbody>
<tr>
<td>x Hoh (%)</td>
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<tr>
<td>Grain, cereals</td>
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<td>Vegetables</td>
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<tr>
<td>Coffee, tea, condiments</td>
<td>Coffee, tea, condiments</td>
<td>Coffee, tea, condiments</td>
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<tr>
<td>Pules</td>
<td>Pules</td>
<td>Oil, fat, butter</td>
<td>Oil, fat, butter</td>
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<tr>
<td>Sugar</td>
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</tbody>
</table>

**Complementary food**
- Water
- Pap: Millet only or Soja beans (wash it and blend it, save it. Use boiled water)

**Weaning:** brutal; because of pregnancy; after weaning exactly the same food than adult

**Breastfeeding duration:** 15-20 months,

**Medicinal recipes:** pregnancy, birth, young child

**2 vulnerable moments described by the mothers:**
- 4-8 months (diarrhea)
- 15-22 months (weaning)
**SMART, 2016**

**Figure 5: Maternal Nutritional status by MUAC<21.0cm**

**Hyp.3: Poor nutritional status among pregnant and lactating women**

"We don't eat enough", "We are sick", "Lack of breast milk is lack of food", "lack of nutritious food lead to lack of nutritious milk": Women

"A undernourished child is link to a undernourished mother": Men

**Risk factor Top 3 of the communities categorization**

**Low weight birth**: since 3-4 years

**Mother intake during pregnancy:**
More (47.18%) Less (35.15%) Same (17.69%)

**Perceived low weight birth:**
48% smaller

**Mother Diversity Diet Score:**
- 62.5% eat 5 or more food groups
- **37.5%** eat less than 5 food groups
Hyp.4: Inadequate child health care

Health seeking behavior

Figure 6: Health seeking treatment option

<table>
<thead>
<tr>
<th>Treatment Option</th>
<th>% Treatment Options Sought</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village Health Worker</td>
<td>1</td>
</tr>
<tr>
<td>Traditional Healer</td>
<td>31</td>
</tr>
<tr>
<td>Medicine vendor</td>
<td>28</td>
</tr>
<tr>
<td>Hospital</td>
<td>22</td>
</tr>
<tr>
<td>PHC</td>
<td>25</td>
</tr>
<tr>
<td>Medicine Shop/Store</td>
<td>41.7% (n=40)</td>
</tr>
</tbody>
</table>

41.7% (n=40) of children reported ill sought treatment at PHC and Hospital.

QUALITATIVE Survey

Traditional doctor: “they help us with our diseases”

Medicinal recipes: “we can not let our children died without doing nothing”

BA: “they are less expensive and more comprehensive”

RANA disease: 3-4 years

Don’t go to HC
<table>
<thead>
<tr>
<th>Village</th>
<th>Children disease</th>
<th>Seasonality</th>
<th>Therapeutic cursus</th>
<th>HC distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garin Gaye</td>
<td>Rana, Cough, Measles, Pneumonia, Malaria, Diarrhea</td>
<td>Hit Season, Cold season, Hit season, Harmattan season, Rainy season</td>
<td>Chemist/Medicinal recipes → Health center</td>
<td>4 km</td>
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</tr>
<tr>
<td>Garin Kolo</td>
<td>Fever, Vomiting, Diarrhea, Rana, Measles, Cough, Stomach pain</td>
<td>Any time, Hit season, Hit season, Any time</td>
<td>Medicinal recipes → Traditional doctor → Health center</td>
<td>10 km</td>
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</tr>
<tr>
<td>Garin Kadai</td>
<td>Malaria, Rana, Zigilla (rhesus disease), Measles, Cough, Eyes infection</td>
<td>Rainy season, Hit Season, Hit season, Harmattan season, Any time</td>
<td>Chemist/Medicinal recipes → Traditional doctor → Health center</td>
<td>5 km</td>
</tr>
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<td></td>
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</tr>
<tr>
<td>Degubi Zakar</td>
<td>Malaria, Eyes infection, Measles, Chicken pox, Rana, Typhoid</td>
<td>Rainy season, Young children, Hit season, Hit season, Hit and rainy season, Rainy season</td>
<td>Chemist/Medicinal recipes → Health center</td>
<td>0 km</td>
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<td></td>
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</tr>
<tr>
<td>Dan Disa</td>
<td>Vomiting, Diarrhea, Cough, Typhoid, Malaria, Rana, Eyes infection</td>
<td>Hit season, Hit season, Rainy and cold season, Rainy season, Any time, Any time</td>
<td>Chemist/Medicinal recipes → Health center</td>
<td>2 km</td>
</tr>
</tbody>
</table>
**Measuring access to health services (DPT3):**

- 41%
  - Distance to health center
  - 5-10 km

**Deworming:**

- 16.5% (5.5%)

**Response feeding:** (child 9-36 months)

- 40.38% of the caregivers help their children to eat, if the child refuse to eat
- 47.75% do nothing and 40.51% try to change the food, play and 11.74% force them

**Psychosocial practices**

- Girls and boys
- Free young child (below than 3 years)

**Psychosocial network**

- Help/advises by co-wives, neighbor, grand-mother, mother in law

**WHO5:**

- 87% feel danger (stress, depression)

**Perceived social capital:**

- Extremely: 59%
- Somewhat: 10%
- Not very: 10%
- Not at all: 21%
ANC (RES, 2017)
• 70.1% see someone
• 61.4% see a health worker
• 37.9% ANC 4 times

Iron folic: 66.6%
Vit A: 39.1%
Multivitamin: 68.7%
PNC: 28.9%

Barriers from going to health center:

- Money
- Time
- Transportation means
- Geographic distance
- Decision Power
- Service not good enough
- Cultural barrier
- Other

Hyp.6/7: Weakness of the health center/Poor utilization and access to health services

- Health facilities: very damaged
- Health center: damaged ➞ Pharmacists / Shop

Top 5 risk factor community categorization
Workers, Medicine, Bed
Pregnancy below 18 years:
Marriage: 15-16 years
First birth: 16-17 years

Early child bearing:
35% first child before 18 years

Vulnerable women: 25 years old

Reproduction:
Caregiver practices on family planning

<table>
<thead>
<tr>
<th>Main methods embraced</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Female/male sterilization</td>
<td>28.6%</td>
</tr>
<tr>
<td>Lactation amenorrhea</td>
<td>23.4%</td>
</tr>
<tr>
<td>Other (traditional belt tied to the waist (guru) / charm (laya))</td>
<td>14.3%</td>
</tr>
<tr>
<td>Calendar method</td>
<td>10.4%</td>
</tr>
</tbody>
</table>
### Main source of drinking water at household level: RFS 2017

<table>
<thead>
<tr>
<th>Main source of drinking water at household level</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground water (open well; motorized/solar powered borehole; hand-dug well)</td>
<td>99.1%(n=535)</td>
</tr>
<tr>
<td>Rain water harvested from the roof</td>
<td>0.2%(n=1)</td>
</tr>
<tr>
<td>Water trucking</td>
<td>0.4%(n=2)</td>
</tr>
<tr>
<td>Piped supply</td>
<td>0.2%(n=1)</td>
</tr>
</tbody>
</table>

**Figure 7: Main water sources at household level**

SMART, 2016
**WATER NEEDS: RFS 2017**

- **Rural (less than 1000 people):**
  - 60L per HoH
  - Well (30m → 100m): North/south (river)
  - Collective well > individual well (neighbor sharing)
  - Water is free

- **Semi-urban (more than 2500 people):**
  - 150L per Hoh
  - Borehole = Individual well > collective well
  - 5-10 N the gallon (25 liter)
  - Gasoil borehole: not working
  - Solar Borehole: working (3 peoples in charge)

**Hyp.10: Inadequate access to water in quality and quantity**

**SAFE WATER POINT: RFS 2017**

- 27.7 Liter-person-day
- **SPHERE:** 73.7% satisfy level (15L)
- **FANTA:** 13% (50L)

- **SAFE WATER POINT:**
  - 74.3 % moderate and severe risk of contamination
  - 14% Safe latrine (Semi-urban context)

**QUALITY > QUANTITY**
Observations:
- Water bag: weak hygiene practice
- Water point non protected, water point non conform
- Traditional storage in rural (clay pot), modern storage in urban (rubber or metallic pot)
  "metallic pot can bring problem"
- HH storage: More hygiene disposal in urban context than rural (cover, use one cup, empty the HH recipient)
- The water use to wash the children body is used for washing the cloth
Hyp.11: Non optimal water management/water chain

Water chain management

Traditional water house storage

Girls in charge of water collection?
Hyp.12: Poor Hygiene practices

Critical Handwashing times

<table>
<thead>
<tr>
<th>Event</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before feeding children</td>
<td>0.7%</td>
</tr>
<tr>
<td>After cleaning babies bottom</td>
<td>5.4%</td>
</tr>
<tr>
<td>Before food preparation</td>
<td>18.0%</td>
</tr>
<tr>
<td>After defecation</td>
<td>42.0%</td>
</tr>
<tr>
<td>Before eating</td>
<td>98.2%</td>
</tr>
</tbody>
</table>

Only **14.1%** of total households use **soap** and water for hand washing.

77% Bad storage of kitchen tools
Latrine coverage

Household ownership of latrine/toilet

Yes=42.6%
No=58.4%

Hyp.13/14/15: Inadequate management of human and animal excreta/Waste

95.7% Open defecation
Rural > Urban
Man (outside) > woman (inside?)
Sharing latrine (HH, rainy season) 13%
Children? 28%

78.3% presence animal or human excreta

98.4% no irrigation/no water disposal for animals

Waste inside fertilizer
"Hikes in prices of food commodities in markets of Borno and Yobe States as well as other parts of the country have been compounded by the ongoing economic recession, depreciation in the value of the Naira, increased cost of transportation and rising inflationary trends." (FAO survey, 2016)

**EXPENDITURES**

**FOOD**>**HEALTH**>**CLOTHES=SOAP**>**FARMING**> phone charging (rural)

**FOOD**>**FARMING**>**School**>**Health**>**CLOTHES=SOAP** (urban)

“The man is the one to decide how, when and where to spend the money”

- Borrow for FOOD > HEALTH
- SMALL livestock: MARRIAGE > HEALTH > FESTIVALS > EDUCATION

**Main Activities:**
- RFS, 2017: AFS
- Farming > raising > little business
- Women’s Activities: little business
  - Sometimes farming

**67% own their land**
**31% aware about owners law**
**Risk factors in the communities**

### Food Consumption Score (FCS)

#### FCS, RFS (2017)

- **Poor food consumption score:** 22.2%
- **Bordeline food consumption score:** 46.7%
- **Acceptable food consumption score:** 31.1%

#### YOBE
- 18% poor
- 24.1% bord.
- 57.9% ok

### Food Consumption Score (FCS)

<table>
<thead>
<tr>
<th>Group 1 HDDS&lt;3</th>
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<tr>
<td>Pulses</td>
<td>Pulses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil, fat, butter</td>
<td>Sugar</td>
<td>Fruits</td>
<td></td>
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</table>

**Group 1 HDDS<3**: 3.3%
**Group 2 HDDS 3-4**: 43%
**Group 3 HDDS 5-6**: 28%
**Group 4 HDDS>6**: 25.7%
MILLET > SORGHOM > Beans > Granuts > Maize
(No mix crops)

“Only 5% of our crops enough for the year, usually the harvest can spend 3-4 months because the family is big and no access to fertilizer.” Farmer

“The soils are no longer fertile” Farmer

“We mostly use the traditional fertilizer because it’s available, the modern is too expensive, we can not spend money for that. Also we don’t have any more money for insecticides.” Farmer (5000 N → 9000 N)

“We tried to keep seeds for next year, but now most of us eat it or sell it before and then borrow during the rainy season” farmer

“The only thing we exchange is seed” Farmer

“For 2 years we have faced a lack of rain.” Woman

LIVESTOCK (Man and woman): 74%

“We didn’t previously vaccine the animals but there is disease we do see the veterinarian” farmer

“We use livestock for farming with traditional tools” Farmer (rent Cow: 2000 N)

“The food for animals comes with the harvest and exchange” Farmer

LAND (Crops, property and garden)

“A lot of people rent the land, 7000-10 000N per year” Woman

“If we rent land it’s difficult to put local fertilizer (5 years) because the owner will take back the land next year” Woman

Animal Protein and energy (Anemia)

“We use the livestock to sale, rent and crop”

<table>
<thead>
<tr>
<th>Shock</th>
<th>percentage of HoHs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staple price fluctuation</td>
<td>87.5%</td>
</tr>
<tr>
<td>Disease or death of household head or member</td>
<td>63.6%</td>
</tr>
<tr>
<td>Pest infestation</td>
<td>49.8%</td>
</tr>
<tr>
<td>Low rainfall/drought</td>
<td>48.8%</td>
</tr>
<tr>
<td>Crop diseases</td>
<td>47.5%</td>
</tr>
<tr>
<td>Livestock diseases/ loss</td>
<td>43.4%</td>
</tr>
<tr>
<td>Crop loss</td>
<td>38.4%</td>
</tr>
<tr>
<td>Farms destroyed by animals</td>
<td>33.0%</td>
</tr>
<tr>
<td>Livestock loss</td>
<td>17.9%</td>
</tr>
</tbody>
</table>

RFS, 2017

<table>
<thead>
<tr>
<th>Animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working cows</td>
</tr>
</tbody>
</table>

87.5%
### Hyp.19: Emergency coping strategy

15.25% of HoH coping strategy

<table>
<thead>
<tr>
<th>Reduced Coping Strategy Index</th>
<th>n=HoHs</th>
<th>severity weight</th>
<th>Av. Days/week</th>
<th>Total rCSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating less preferred and less expensive foods</td>
<td>486</td>
<td>1</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>borrowing foods from relatives or friends</td>
<td>263</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>limiting portion sizes at meal time</td>
<td>308</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>restriction of consumption of adults in order for children to eat</td>
<td>278</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>reduce number of meals per day</td>
<td>299</td>
<td>1</td>
<td>3.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

The total r-CSI was **29**. The total of 278HoHs are embracing the most severe coping mechanism that is restriction of consumption of food for young children to eat. Most households are currently embracing one or more coping mechanisms attributed to limitation in food access in terms of quantity and quality.
79.7% of caregivers have enough time to take care of their children.

56.2% of caregivers didn’t go to school.

Decision Making Power:

- Whether children should go to school?
  - Father: 76.0%
  - Mother: 0.8%
  - Both parents: 23.3%

- When child has to consult medical services?
  - Father: 74.9%
  - Mother: 1.1%
  - Both: 24.0%

- How to spend household money/income?
  - Father: 76.5%
  - Mother: 0.8%
  - Both: 22.7%

Level of education:

- No Education
- Islamia
- Completed Primary School
- Highschool
- Vocational

RFS, 2017

NO SCHOOL IN VILLAGE LESS THAN 2000 people
Categorization - Causal scheme
## Categorization RF

<table>
<thead>
<tr>
<th>RISK FACTOR hypothesis</th>
<th>Prevalence of risk factor from secondary data</th>
<th>Strength and consistency across context of association between the RF and under-nutrition</th>
<th>Prevalence of risk factor from the RFS</th>
<th>Seasonality and mid-term of the RF</th>
<th>Prevalence of RF in the qualitative survey</th>
<th>Participatory rating by the communities</th>
<th>Interprétation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis 1</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+++</td>
<td>+</td>
<td>MAJOR</td>
</tr>
<tr>
<td>Hypothesis 2</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+++</td>
<td>+</td>
<td>MAJOR</td>
</tr>
<tr>
<td>Hypothesis 3</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+++</td>
<td>++</td>
<td>MAJOR</td>
</tr>
<tr>
<td>Hypothesis 4</td>
<td>+</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>+++</td>
<td>-</td>
<td>IMPORTANT</td>
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<tr>
<td>Hypothesis 5</td>
<td>+</td>
<td>+</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>MINOR</td>
</tr>
<tr>
<td>Hypothesis 6</td>
<td>+</td>
<td>++</td>
<td>+</td>
<td>-</td>
<td>+++</td>
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12 Major RF
6 Important RF
4 Minor RF

Chronic and acute undernutrition?
Hypothesis 1: Non-optimal breastfeeding practice for children up to 6 months
Hypothesis 2: Young child non-optimal feeding practices
Hypothesis 3: Poor nutritional status among pregnant and lactating women
Hypothesis 4: Inadequate child health care
Hypothesis 6: Poor utilization and access to health center
Hypothesis 10: Inadequate access to water
Hypothesis 11: Non-optimal water management
Hypothesis 12: Poor hygiene practices
Hypothesis 13: Inadequate management of excreta
Hypothesis 16: Poor access to food
Hypothesis 17: Poor food availability
Hypothesis 22: High illiteracy rates among parents
Recommendations
• Close cooperation between government and agencies: different strategy and coordination

• Community level intervention (community power, knowledge, empowerment, “knowledge carrier”, economic starter)

• Multisectoral approach: Integrated?
  – Different level of vulnerability?
  – Different temporality?
  – Same goals? (LWB)
Food security
Develop household resilience and community resilience to limit the use of coping strategies (household and community)

Promote agricultural education (Developing farming and raising school) with an integrated approach (NUT-FSL-WASH)

- **CROPS:**
  - ✓ Increase the presence of local fertilizer
  - ✓ Increase accessibility to land
  - ✓ Increase access to seed (granuts, bennynuts, beans, soja beans)
  - ✓ Trainings about pest management and provision inputs
  - ✓ Developing agriculture for desert area
  - ✓ Support the irrigation system (garden)

- Increase the presence of **garden** (women), micro-gardening trainings and provision of inputs
- Increase **livestock** for men and women (knowledge about management, immunization)
- Support **business for women** (material, management, cooperative)
- Developing **micro-credit** for farming, raising and business
Healthy environment + Water access \(\rightarrow\) Hygiene practices
Socio-cultural approach + community approach + economical approach

**WATER**
- Construction and rehabilitation of water points
- Developing solar borehole, pump well
- Developing community water management (both men and women)
- Training water vendors and community leader on safe water chain

**HEALTHY ENVIRONMENT**
- Improve management of animal and human excreta (local fertilizer): CLTS, latrine
- Increase community management of waste
- Construction and rehabilitation of sanitation and bathing facilities
- Developing community approach with employment access

**HYGIENE PRACTICES**
- Participatory hygiene and sanitation transformation (PHAST) mobilization
- Promote community projects and actors on hygiene practices (employment, certificate for professional skills)
- Community hygiene promotion: Hygiene promotion delivered through door-to-door approach
Supervising nutrition practices and support health system - Community and cultural approach - Participate in changing behavior and dietary diversification at the multisectoral level

**NUTRITION**

- Nutrition center: *baby tent*
- Involve mothers with undernourished children in income generating income community activities (agricultural group, WASH group, Health group)
- Ongoing trainings with health workers about breastfeeding and complementary feeding
- Developing a community approach for care practices and nutrition with the support of birth attendants and local pharmacists
- Developing knowledge of undernutrition among local doctors (traditional doctors)
- Involve key community leaders in addressing undernutrition: Religious leaders, teachers, village leaders
- Sensitize men about undernutrition

**HEALTH**

- Supporting health centers in terms of recruitment, training, salary
- Supporting health centers in term of medicine supply, access to water
- Supporting accessibility of health centers with local ambulance service
- Supporting the relationship between birth attendants and local pharmacists (training)
- Participate in the development of local medical knowledge
PROPOSITION

• Developing school for adult learning (literacy center oriented on specific knowledge: farming, rising, water, business)
  ➔ Support of women’s education

• Develop and support children’s access to school

**Include Protection in each sector** (empowerment)

➔ Food security (raising-gardening-business for women), WASH (community group, worker), Nutrition/Health (birth attendance)

➔ Gender approach

➔ Children protection
Community based – Culturally based

Volatile context

**Short term** (one year)
- Nutrition: LWB-care practices
- Support Health system (WASH)
- Food Sec – Fertilizer

**Middle term** (3 years)
- Economic-Agricultural autonomy
- Child health care – Psychosocial network
- Good access to water-Healthy environment

**Long term** (5 years and above)
- Health network
- Agricultural/Wash network
- Education network

**Autonomy**
- of the communities
Na gode!

Team of the qualitative survey