



FISH FARMING: PRIMARY SOURCE OF INCOME, NUTRITION AND EMPLOYMENT IN ETHNIC MALLAHA OR MAJHI COMMUNITY OF EASTERN NEPAL



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INTRODUCTION

- The immense water resource in Nepal has supported several indigenous fish species which has great role in balancing the biodiversity as well as in income generating activities of landless, marginal farmers (DoFD, 2013)
- Nepalese indigenous communities like Bote, Majhi and Mallahas are settled as an marginalised group in various parts of the country (Rai, 2009). Mallaha or Majhi community is the traditional fishing community- nowadays commercial fish farming started- who have embedded relationships with the rivers (Rai & Majhi, 2014)
 - Community: Majhi
 - Total Population: 83,727
 - % of total population: 0.3%
 - Literacy: 58.01%
 - Growth Rate: 1.42
 - Population in Urban: 11.5%, in Rural: 88.5%
 - Employed Population: 53.2% (CBS National Census, 2011)
- They are categorized as Highly Marginalised Indigenous groups
- Basically the livelihoods adopted by the rural communities in Nepal are derived from the traditional economic activities based on locally available natural resources such as agriculture, livestock, forestry, etc (Banskota & Pradhan, 2007)
- Involved in fishing for whole day, almost every meal contains fish product

OBJECTIVE

It is an attempt to portray the following in the indigenous Mallaha community.

- livelihood status
- socio-economics



Contribution of fish farming on

- annual income,
- food security,
- nutrition and
- employment level: remittances level, involvement to abroad labor

METHODS

- Survey was conducted from February to April, 2018
- Pre-tested, semi-structured interview schedule for Primary data collection
- Total households: 40 fish farming Mallaha household heads

- 7 key informants in Rangeli Municipality
 - 2 Focused Group Discussion
- Data was analyzed using SPSS (ver. 22) software package
- Nutrition:** the consideration of their general food habit assessed using 24 hour recall technique; proportion of nutrition derived from their daily feeding habit was calculated, Health, Hygiene and Sanitation was assessed.
 - Food:** availability, accessibility and affordability, and Socio-economic Vulnerability situation was assessed.
 - Income:** annual earning and expenditure
 - Employment:** Involvement of family members in different occupations: fishing, abroad, agriculture, labor, marketing
 - Problem Indexing:** Using 5 point scaling technique

RESULTS

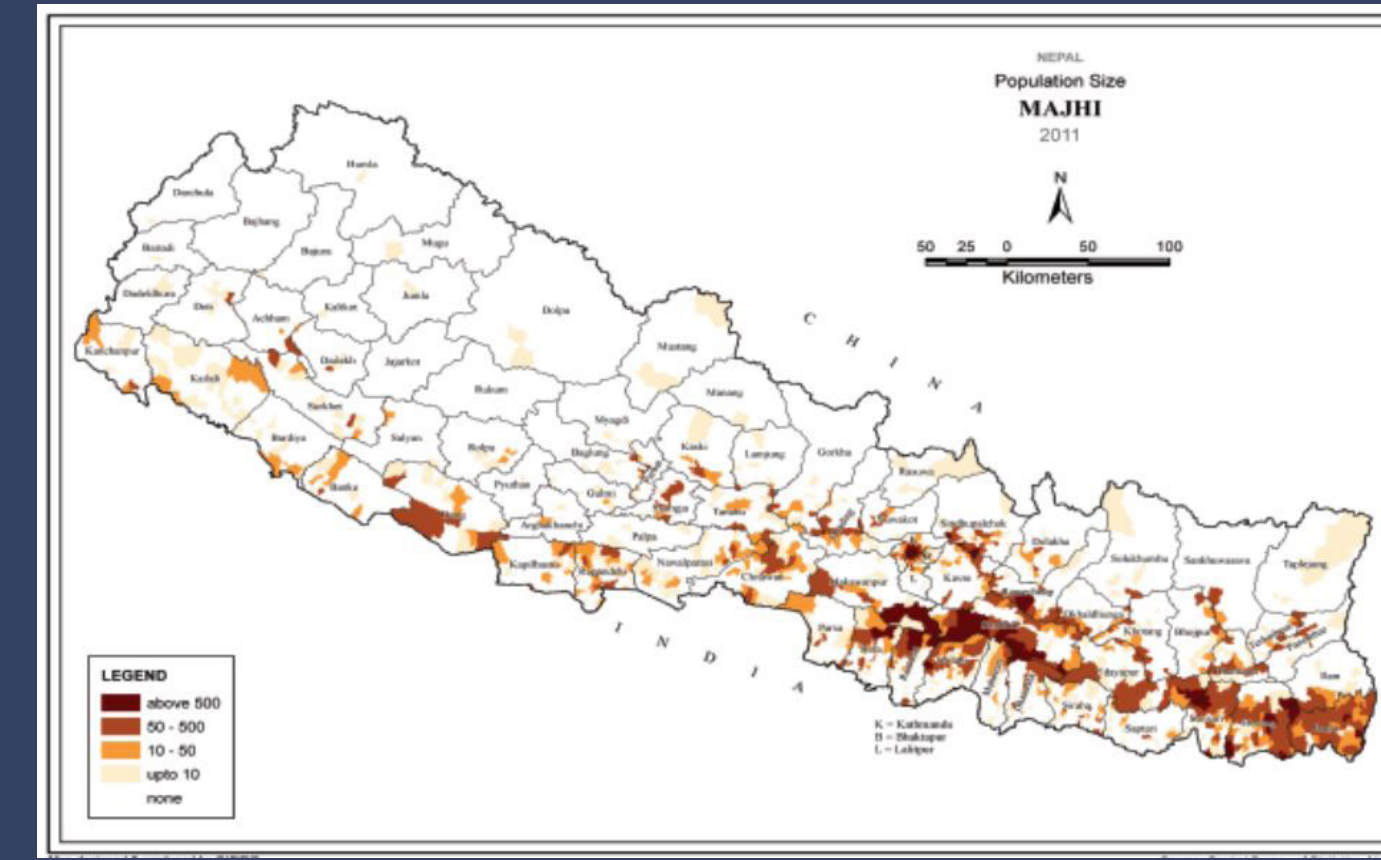


Figure 1: Population Distribution of Majhi (CBS, 2011)

1. Livelihood Status:

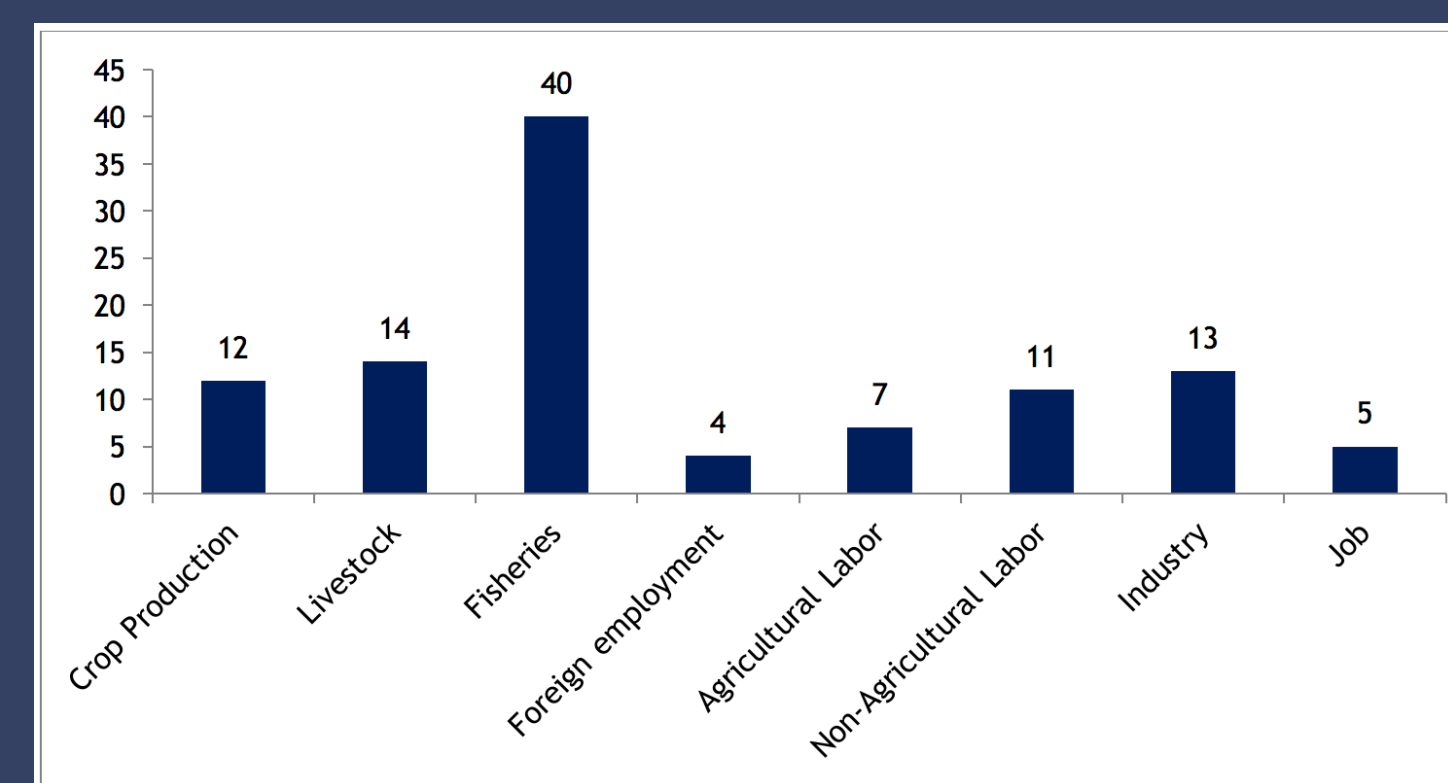


Figure 2: Involvement in various occupations

- Agriculture is the cornerstone of this community, which used to be rain-fed earlier, but from few years they have been using irrigation sources like water pumps, boring and canal.
- Aquaculture is the main occupation of all the households from their parental generation. Very few farmers have multiple source of income. Farm and Off Farm labor and foreign employment are emerging occupations.

| Marketing by: | Households |
|----------------|------------|
| Self | 29 (72.5) |
| Sold to others | 11 (27.5) |

Major works: fish seed supply, fish selling: live or dried, rearing fish in lease, fish harvesting

Effect of Flood (August, 2017):

| | Frequency |
|------------|-----------|
| Affected | 31 |
| Unaffected | 9 |

Foraging practice: Foraging was not in practice. However, few households reported that the trend of foraging has been decreased in recent years.

2. Annual income from fishery sector:

| | |
|------------------------------|---------------------------------|
| Minimum | USD 368.19 |
| Maximum | USD 5277.46 |
| Average Income per household | USD 3172.61 per annum ± 1476.06 |

3. Food Security: Is it a serious problem for this community?

| Food affordability and accessibility Months | Households |
|---|------------|
| 3-5 | 3 (7.5) |
| 6-9 | 7 (17.5) |
| 10-12 | 30 (75.0) |

Figures in the parentheses indicate percentage.

Though, this community belongs to minority or as disadvantaged, they have proper access of food in Morang district. Nevertheless, crops and livestock commodities are not available year round.

4. Nutrition status:

Fish Consumption:
Per person per year: 30.18± 7.31 kg
Minimum: 17.40 kg Maximum: 61 kg

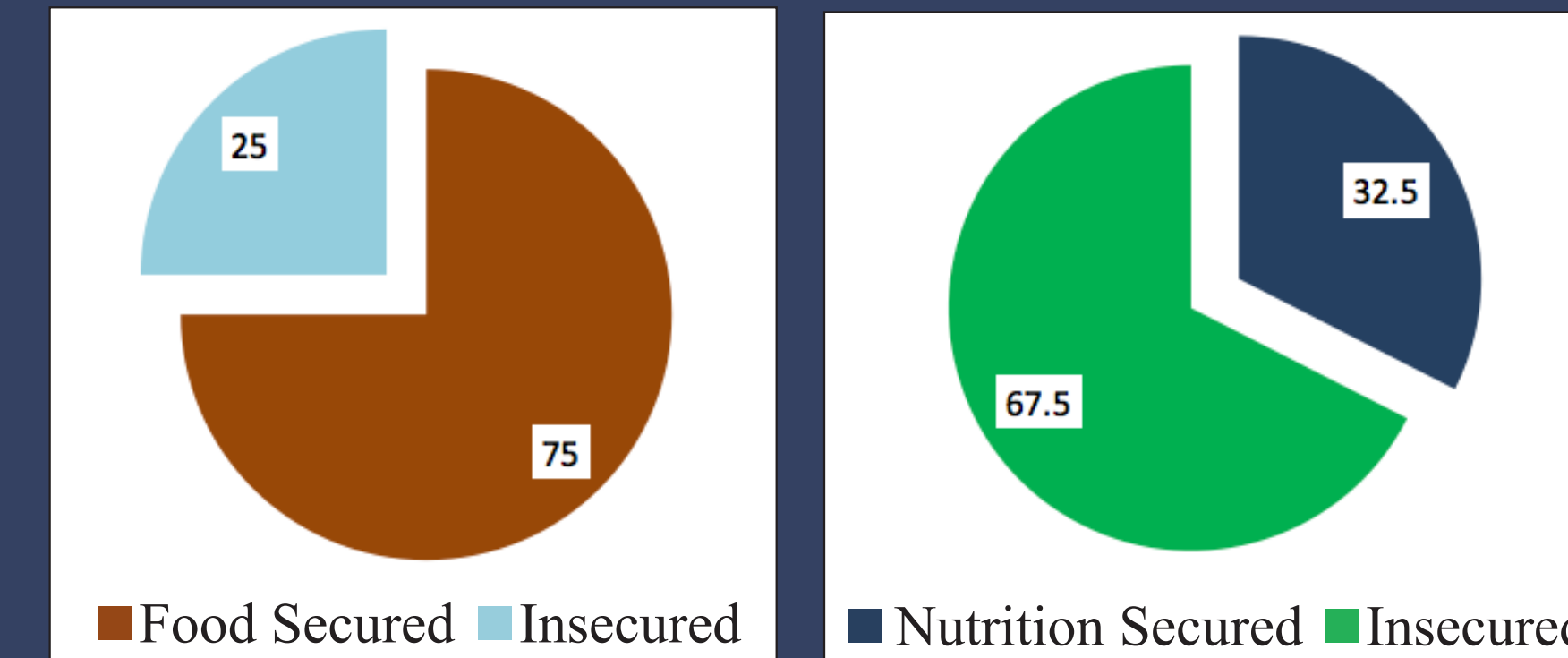
Note: USD 1= NRs. 114.07

| Food Consumed | Proportion of total calories |
|---------------|------------------------------|
| Rice | 28.25% |
| Fish | 38.55% |
| Vegetables | 13.54% |
| Pulses | 5.87% |
| Fruit | 3.80% |
| Others | 10% |

Health and Sanitation:

✓ About 15% respondents have chronic diseases: diabetes, high blood pressure, uric acid and COPD (among 47 to 69 age group). Similarly, from the direct observation: sanitation and hygiene was very poor in almost all households.

Assessing Socio Economic Vulnerability, Hygiene and Sanitation, availability, accessibility and affordability, the food and nutritional security was obtained as:



Figures: Food and nutritional security

5. Post-Harvest practice

As per the respondent, only live fish is preferred by consumers. They were involved in fish drying process too. The small to large fishes can be dried and commercially marketed. Vegetable drying and storing is practiced preparing gundruk, masyaura, chana, sinki for off-season.

6. Fish productivity:

Fish Farming Experience: 3-39 years

| | Commercial scale | Medium Scale | National average |
|--------------|-------------------|-------------------|------------------|
| Productivity | 5.34 (1.2) ton/ha | 4.32 (0.8) ton/ha | 4.91 ton/ha |

Source: (DoFD, 2017).

Figures in parentheses indicate S.D.

7. Problems ranking:

| Major Problems discussed (from FGD) | Index value | Rank |
|---|-------------|------|
| high pond lease rate | 0.74 | I |
| traditional way of farming | 0.46 | V |
| lack of technical knowhow among the farmers | 0.58 | III |
| increasing dependency on Indian fish | 0.69 | II |
| lack of social security | 0.53 | IV |



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KEY FINDINGS



- Post-harvest loss minimization: Farmers are practicing traditional fish drying process for big as well as small fishes.
- Good amount of nutrition derived from fish but lack of vegetables, pulses and fruits. However, they are dependent on poor sources of nutrients.
- Good income generation and food security status, relatively higher production of fish
- Foraging Practice: Frequent mushroom poisoning until some years ago. But it has been reduced significantly promoting awareness.
- Vulnerability to climate and disaster: Affected by flood every year

CONCLUSION



The indigenous Majhi community is still one of the vulnerable – socially, climatically and economically – communities of Nepal. However, nowadays most of the household send their children to schools, themselves getting involved in agricultural especially aquaculture and marketing activities. Fish farming has played vital role in achieving food and nutritional security along with income generation. They have major role increasing the fish productivity of the eastern Nepal. Addressing agricultural production, nutrition consciousness, climate change monitoring, livelihoods strengthening and disaster preparedness to ensure access to food and income generation is an urgent need for Mallaha community, even in urban areas of Nepal.

REFERENCES



- Banskota, S. & Pradhan P. K. (2007), Non-timber forest product-based livelihoods of the rural communities in the Shey Phoksundo National Park, Nepal. Nepalese Journal of Development and Rural Studies. 4, No 1: 71-82.
- DoFD. (2013; 2017). Fisheries statistics and Annual Report, Fiscal year 2013 and 2017. Fisheries Development Directorate, Department of Agriculture, Ministry of Agriculture Development, Nepal.
- CBS. (2011; 2014). Population Monograph of Nepal. Central Bureau of Statistics, Nepal.
- Rai, J. & Majhi, H. (2014). Majhi of Nepal. Central Department of Sociology/ Anthropology, Tribhuvan University, Kathmandu, Nepal.
- NIWF & UNDP. (2018). Economic Empowerment of Indigenous Women in Nepal. National Indigenous Women's Federation and United Nations Development Program, Nepal.

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