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Understanding Food Insecurity Experiences, Dietary Perceptions and Practices in the Households Facing Hunger and Malnutrition in Rajanpur District, Punjab Pakistan

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Abstract

Household Food Insecurity is the underlying cause of hunger and maternal-child undernutrition. This study aims to understand household experiences, practices, and perceptions regarding food insecurity and dietary diversity at the community level in one of the most underdeveloped districts, Rajanpur, in South-Punjab. This study majorly used ethnographic research methods for data collection, supplemented by a food insecurity survey. The study attempted to investigate households' inability to access food and to analyze poor mothers' perspectives and practices regarding daily diet, healthy and unsafe foods, along with variety and diversity of diet. Data found that immediate and the most conspicuous problem was the limited diversity of food. Overall, the low income of poor households determined the low quality of the diet. The foods unavailable or scarce in the households were perceived as healthy foods. Data revealed low-income households had to eat monotonous, old, used, expired and rotten foods. Poor rural households had to sell off their highly energetic food items (honey, chicken, milk, purified butter, and eggs) only because they wanted to earn a little amount of money, which makes poor rural mothers and children food insecure. Besides, local markets also sell out low-quality foods. The most serious issue was inflation, which squeezes the poor's buying capacity. Data analysis revealed that micronutrient deficiencies in mothers and children (hidden hunger) resulted owing to the consumption of less diverse food. The analysis informs that although there was no absolute hunger in the community, limited diet diversity or lack of access to fruit, meat and milk were the real barriers for poor households because of high inflation. Recommendations include reducing inequalities, enhancing household income, controlling food prices, and promoting a culture of diverse food instead of commercialization is highly recommended to alleviate hunger and malnutrition at the micro-level.

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Introduction

Food security is a situation when 'all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life'.[1] Low food security causes sub-optimal infant and young feeding practices. The lack of access to a sufficient quantity of nutritious food causes malnutrition in children and mothers.[2] Inadequate nutritional status in early childhood has long-term consequences.[3] Dietary diversity is associated with the nutritional status of a child.[4] The average caloric consumption in the poorest Pakistani households is 23% lower than the recommended level.[5] The major source of caloric consumption is wheat, followed by rice; poor and rural households' cost of consumption is lower than non-poor and urban households[6,7] and the average diet in the country is not fully diverse.[8]

1 World Food Summit, Rome, 13-17 November 1996, Rome: Food and Agriculture Organization of the United Nations, 1996.

2 Mauricio Reis, 'Food Insecurity and the Relationship between Household Income and Children's Health and Nutrition in Brazil', *Health Economics*, 21:4 (2012), 405-427.

3 Cesar G Victora, Adair Linda, Fall Caroline, C Hallal Pedro, Martorell Reynaldo, Richter Linda, and Harshpal Singh Sachdev, 'Maternal and Child Undernutrition: Consequences for Adult Health and Human Capital,' *The Lancet*, 371:9609 (2008): 340-57. Also see, Grantham-McGregor S. Yin Bun Cheung, Santiago Cueto, Paul Glewwe, Linda Richter, Barbara Strupp and the International Child Development Steering Group, 'Developmental Potential in the First 5 Years for Children in Developing Countries,' *Lancet* (London, England) 369:9555 (2007), 60-70, https://doi.org/10.1016/S0140-6736(07)60032-4, accessed 16 May 2019.

4 Evita Hanie Pangaribowo, Nicolas Gerber and Maximo A. Torero, 'Food and Nutrition Security Indicators: A Review,' *SSRN Electronic Journal*, 2013.

5 World Bank, *Revisiting the Poverty Debate in Pakistan: Forensics and the Way Forward*, Washington, DC: World Bank, 2016.

6 Malik Sohail Jehangir, Hina Nazli, and Edward Whitney, 'Food Consumption Patterns and Implications for Poverty Reduction in Pakistan', *The Pakistan Development Review*, 54:4 (2015), 651-69.

7 Jed Friedman, Seo Yeon Hong and Xiaohui Hou, *Impact of the Food Price Crisis on Consumption and Caloric Availability in Pakistan: Evidence from Repeated Cross-Sectional and Panel Data* (Washington: World Bank, 2011).

8 Nadia Shabnam, Fabio Gaetano Santeramo, Zahid Asghar, and Antonio Seccia, 'The Impact of Food Price Crises on the Demand for Nutrients in

This study aims to understand household food insecurity experiences and poor and malnourished mothers' perceptions and practices related to diet diversity at the household level. According to the national nutritional survey, micronutrient deficiencies owing to limited and less diverse diets[9] have retarded growth, immunity, and cognitive development of children in Pakistan. The evidence shows that nearly 30% of children and 50% of females are anemic.[10] The overall high rates of hidden hunger may be associated with diet-related poverty. Food insecurity is the underlying cause of maternal and child undernutrition at the household level. Basic causes determine underlying causes. This study argues that political economy and structural adjustment policies have a deep impact on food insecurity at the local level.

Historically, Pakistan has followed neoliberal programs and policies. Pakistan, once sufficient in wheat and rice grains, ultimately became deficient after 1980. When food prices at the world level decreased, the demand for grains became low, which resulted in minimal investment in agriculture in the country.[11] Worldwide food grain prices increased in 2007, but international financial institutions forced Pakistan to export its already scarce wheat surplus. Additionally, giving agricultural lands to foreign countries and agribusiness investors on long-term leases resulted in the export of grains to investing countries.[12] No steps and actions were taken at the policy level to control the ongoing hype in food prices as the wheat price increased from RS. 400/40kg in 2004 to RS. 630/40kg in 2008.[13] The same has crossed 1400/40kg in

Pakistan,' *Journal of South Asian Development*, 11:3 (2016), 305-327, https://doi.org/10.1177/0973174116667102, accessed 11 November 2018.

9 Government of Pakistan, *National Nutritional Survey Report, 2011*, Planning Commission, Planning and Development Division, 2011.

10 National Institute of Population Studies Islamabad, Pakistan, Pakistan Demographic and Health Survey, 2012-13, MEASURE DHS ICF International Calverton, Maryland, USA. https://www.nips.org.pk/abstract_files/PDHS%20Final%20Report%20as%20of%20Jan%2022-2014.pdf, accessed 5 May 2018.

11 Nina Gera, 'Food Security under Structural Adjustment in Pakistan,' *Asian Survey*. 443:3 (2004), 353-68.

12 Michael Kugelman, 'Pakistan's Food Insecurity: Roots, Ramifications, and Responses,' in Michael Kugelman and Robert M. Hathaway (eds.), *Hunger Pains: Pakistan's Food Insecurity*, Washington, D.C: The Woodrow Wilson International Center for Scholars, 2010, 13-14.

13 Government of Pakistan, *Task Force on Food Security Report, 2009*, National Planning Commission (NPC), Pakistan (2009), http://climateinfo.pk/frontend/web/attachments/data-

2019. Wheat domestically was much cheaper than the international market, so it was smuggled, which aggravated the crisis.

Moreover, due to the rise in petroleum and gas prices, fertilizer prices greatly influenced agricultural production, so wheat had to be imported in 2008 at expensive rates, $300 a ton. The consumer price index increased by 25%, and wheat prices increased by 20%.[14] Further, the cost of food rose upto 270% between 2000 and 2013. From 2007 to 2009, prices of wheat flour and rice rose upto 200%, and onion, milk and oil upto 150%.[15]

In southern Pakistan, cash crops such as cotton and sugarcane do not contribute to household-level food security.[16] Household food budget and intra-household food distribution determine maternal nutrition in Pakistan, but it has historically minimized due to slow economic growth, especially food prices hype after 2008,[17] and gender and social inequities. Malnourished cases in Pakistan amplified from 24 million in the 1990s to 45 million in 2008. In early 2010, the prices of major commodities such as staple crops, sugar, and cooking oil prices increased nearly 20% and are more likely to grow in the future as predicted by a wholesale price index.[18]

Critical anthropologists stated that free-market economy failed to alleviate poverty (Great Recession and 2008 Global Food Crises), and the poor had to spend more than two-thirds of their households' budget on their food only.[19] They suggested anthropologists expose political-economic contexts of food insecurity felt locally through Food Insecurity Access Scale[20] [FIAS] survey and indepth interviews.

type/GOP%20(2009)%20Task%20Force%20on%20Food%20Security%20-%20Final%20Report.pdf, accessed 6 December 2018.

14 Sohail Jahangir Malik, 'Food Supply Challenges and Implications for Food Security,' in Michael Kugelman and Robert M. Hathaway, *op. cit.*, 46-57.

15 World Bank, *Revisiting the Poverty Debate in Pakistan*, 2016.

16 Di-Cesare, *et al.*, 'Geographical and Socioeconomic Inequalities,' 229.

17 National Planning Commission, 2009.

18 Michael Kugelman and Robert M. Hathaway, *op. cit.*, 5-31.

19 David A. Himmelgreen, Nancy Romero-Daza, Charlotte A. Noble, 'Anthropological Perspectives on the Global Food Crises,' in Darna L. Dufour, Alan H. Goodman and Gretel H. Pelto (eds.), *Nutritional Anthropology: Biocultural Perspectives on Food & Nutrition* (New York: Oxford University Press, 2012), 120-27.

20 Jennifer Coates, Anne Swindale and Paula Bilinsky, 'Household Food Insecurity Access Scale (HFIAS) for Measurement of Food Access: Indicator Guide (V3),' Washington DC: Food and Nutrition Technical Assistance Project (August 2007).

Research methods

This ethnographic study was conducted at various times from November 2016 to May 2018 in district Rajanpur, one of the most underdeveloped districts in the southern Punjab province, Pakistan. It purposefully selected two remote Basic Health Units (BHUs), one on the eastern side near the Indus River, other on the western side near the Suleiman Mountains, one Rural Health Centre (RHC) in the middle and one Nutrition Stabilization Center for the treatment of Severe Acute Malnutrition with complication at the District Headquarters (DHQ) hospital in Rajanpur city. This ethnographic research selected only those who could best "describe the situation". Parents, particularly mothers, were told about the nature of the study and requested to participate in it. All respondents were clearly informed about the purpose of research, and then their oral consent was taken to be part of the study. Privacy, anonymity and confidentiality of the respondents were strictly adhered to.

At the micro-level, it used Household Food Access Scale to estimate the level and severity of household food insecurity by using a 9-item estimate that measures the frequency in the last four weeks. One hundred and eighty-six (186) structured interviews were conducted to measure food insecurity experiences of households. Each interview lasted approximately 45-60 minutes. Out of 186 households, 34% (63) male, and 66% (123) females were interviewed. Occupation of 55 participants was agriculture; 42 were laborers, 25 were doing small business such as shop, 13 were in government service (e.g., teachers), 10 were woodcutters and sellers, 6 were shepherd, 18 were living on basic subsistence, 10 participants were domestic servant women, 5 each were daily wagers and masons.

Less than 30% of participants' primary monthly income was Rs. 5000, 35% had an income of Rs. 6000-10000, and 15% had Rs. 11000-15000, and only 10% of the sample households had an income of Rs. 20,000 and above. Basic quantitative data was analyzed with the help of Statistical Package for IBM's Social Sciences (SPSS), and only basic descriptive statistics tables were obtained.

The research restricted indepth interviewing to the most severe cases of malnourishment only in thirty households. Interviews were open-ended with a flexible format, so multiple issues were discussed during informal indepth semistructured and open-ended interviews. Each interview lasted from one to two hours and covered the feeding practices, food security and diversity, and understandings of child malnutrition, health, and illness.

The interviews, field observations and narratives were initially captured in the native language and then translated into the English

language was done by the principal author himself. Further, the content was analyzed and codified manually, and major themes and sub-themes were identified. The methodology has shown some limitations; there was a gender gap, although female assistants accompanied the author. Next, questions were asked in the local language and then translated into the English language. Translation from one language to another impacted some results. There were occasions when the reported facts and phenomena were short of words. Several local terminologies were used, and some words could not be properly translated into English.

Findings

This ethnographic research is supplemented by a 9-item Food Insecurity Access Scale [FIAS] to estimate food insecurity in Rajanpur. Survey data at the community level estimated that nearly every one in ten households had not enough food, and every second household was often unable to eat preferred foods because it could not be purchased due to lack of resources. Almost every third household often had to eat a limited variety of food, the most significant indicator, and a strong reason behind micronutrient deficiencies or hidden hunger. People had to often eat disliked foods (9%) because of a lack of resources to obtain better and multiple types of food. Only one-third of participants stated that they never ate a smaller meal in the last month. More than two-thirds of participants thought that they should eat three times. The majority of participants stated that they never experienced extreme hunger for the whole night or the whole day and night.

Table 1: Household Food Insecurity Experiences

Question	Never	Rarely	Sometimes	Often
Worry about enough food	32.3	24.2	35.5	8.1
Preferred food	26.3	24.2	31.3	18.6
Limited variety of food	22.1	18.8	30.1	29.0
Food people to eat	24.2	30.1	37.1	8.6
Smaller meals	31.2	40.9	24.2	3.2
Fewer meals	64.5	26.3	7.5	1.1
No food of any kind	60.2	21	16.1	2.7
Go to sleep hungry at night	75.3	20.96	2.7	1.1
Go Hungry whole day and Night	86.6	9.1	1.1	1.0

Source: Field data by the survey team

Survey data analysis revealed that the food score in each household ranged from 0 to 20; 40% of households had a dangerous and lowest food score between 0-5, while less than one-third of households had a score between 6-10. Only one-third of households showed a better score ranging between 11-15, but only 10% of households had the best score range of 16-20. We can interpret this situation as: more than 60% of the household are not very dissatisfied with food. The following major themes emerged from the ethnographic data.

Daily diet and staple foods of low-income households: The wheat grain has become the most widely available food in the daily diet. It is grown universally, and other grains like millet and corn are produced only in minor quantities. The reason is that wheat is a commercial crop and gives profit in the agricultural and feudal modes of production. Also, wheat in dietary habits has replaced cheap and more energetic millet grains. Rural households use *chatni* (paste of mint, green chili, bhringraj, and coriander) along with wheat-made loaf. The majority of poor rural households keep cows and goats in their courtyards. They sell or drink their milk because buffalo keeping is comparatively expensive.

Additionally, *lassi* (yogurt drink), which was widely used in rural households, is consumed less frequent nowadays. The local saying, '*kheer makhan di jhanjh na kar lassi pi gutkala thee*' implies that there is no worry if milk and butter are unavailable, one may drink *lassi* and be healthy'. *Lassi* (yogurt drink) contains traces of raw butter, and especially for the poor *lassi* has special importance as it is economical and serves all household members with a small quantity of yogurt.

Excessive use of carbohydrates and sugar products decreases appetite. Often roti (wheat loaf) and *chai papay* (rusk dipped in black tea made up with some amount of milk) were given to small children by their parents. Some mothers gave a full small bowl of sugar to young children to keep them busy in eating white sugar most of the time. This practice finished their appetite and caused a deficiency of essential nutrients such as protein and vitamins led undernourishment in them. This practice was strongly connected with the household's lack of access to diverse foods and awareness about the overuse of white sugar.

Limited diversity of foods: The majority of the low-income parents said they usually ate 2-3 times in a day with tea, loaf, potato, or peas. One woman replied: 'pulses, rice, and vegetables are our common diet, used almost every day. Chicken is expensive and a luxury, which is cooked once a month, but to think about meat, either mutton or beef is almost impossible. When someone becomes weak and sick, its broth is then

used.' Some mothers reported eating cake, potatoes, eggs and meat once in one month and fruit once in a blue moon while their young children liked rice and vermicelli. One nutrition expert from the community highlighted the problem of the hidden hunger due to the limited variety of food in these words: 'Mothers and children in poor households satisfy their hunger by eating wheat, rice, potato, or peas. The stomach is filled in this way, but the chemical variety required by the human body is not achieved. This is why most maternal malnutrition is conspicuous in the form of micronutrient deficiencies along with low weight and height. This factor is transmitted down the next generation, causing low birth weight babies in poor households; it continues in a cyclical way in an unending fashion'.

District coordinator of the nutrition program once commented: *hika daal hay jehri khari hay thaee biyan cheezan vai zaroori hin insan kon, fruiting vai kay naen, lassi hay albata…*

Pulses are eaten every time; if a person eats rice for several months, it will of-course, affect because other things are also necessary, like fruit, but they consume *lassi* (yogurt drink). Only it is due to calcium and vitamin D availability that makes them hardworking; if these things were not available, they would have been completely sick, although they are yet anemic. Most of the village people are poor and rarely can eat meat, as they have the least power to purchase it. They can eat meat in marriage ceremonies, or Eid, maybe after six months.

Selling household foods for money: Most of the poor rural mothers told that they do not cook curry two or three times like people in towns and cities do. They grew corn, maize and wheat with rainwater, and bought onion from the nearby towns. Mushrooms that were acquired had to be cooked or sold out in the nearby small market. Although some eggs are reserved for kids, rest are sold (at the rate of 15 rupees each) when somebody is going to town, eggs or hens are given to him to earn a little money. *Lassi*, once available free without any demand for payment in return, milk collection companies finished the trend of free *lassi* sharing. Presently, companies collect milk from villages and extract cream, as the respondents reported.

Household income and quality of diet: Mothers considered income as the prerequisite of good health. One mother stated: 'if household head is not earning, family members can't afford to buy anything, which impacts their health. When the needs of survival are not fulfilled or when a good diet becomes unavailable, then health suffers.' Similarly, another grieved mother remarked: 'when earning was good, it had a positive impact on their health, but with low-income, they felt sick because they had no

food buying capacity.' Few mothers opined: 'poverty brings worries while rich diet brings peace at home and make their health better.' A good income can ensure food diversity, which emerged a great issue in the majority of households.

Inflation has reduced buying capacity: One couple complained that day labor or daily wage work is not sufficient for a reasonable living: 'food price is so high, utilities and other stuff consume much of our income and bearing expenses with daily wage or manual work is almost impossible (*Tazi mazdori nal mail nain milda*). One mother stated: 'we brought our children to the clinic; the doctor said they are anemic and weak; they need blood drips (*khoon dian bootlan*). Milk, fruit and meat are so expensive that we are unable to purchase these fearlessly. We buy one-liter milk and water is added to it to increase its quantity so that it can be distributed into the whole family.

One mother, working as a domestic servant, stated: 'when I go market, I see different fruit, but the prices are so high that I never dare to touch them. I often think about why my children cannot eat fruit and milk even if I work more than 12 hours a day. Is it my fault? Why one is poor, and the other is rich. I can only afford to buy a 10 kg bag of wheat that costs 700 rupees. It is too hard to fight this inflation.' One poor widow expressed: 'we want to eat meat, but it is very costly. We can eat meat on Eid of Sacrifice, only once in a year. We can't purchase fruit; we can only eat wheat bread, potatoes, curry, peas, rice and pulses.' One unemployed husband got angry when her wife asked for ration. He said, 'I have nothing to feed you; go to others' house, work as the female domestic servant (maid) and earn yourself [*ap kamao tay ap khao*].'

Perception of preferred goods or things good for health: Mothers' perception of healthy foods was explored to understand their knowledge, awareness, and accessibility. When asked what makes the health of a child good, mothers showed a mixed response. They eagerly wished for what they could not buy. Many mothers wished for *asli ghee* (purified butter), fruit and meat because they severely lacked food diversity in their daily diets. Some very poor women even gave a fatalist statement: 'all that is accessible and available may be good for hungry and poor.' Many mothers thought that soup, eggs, tea and fruit are good for a mother. One mother explained that watermelon was a healthy diet. Her husband bought it off and on when he used to earn well. She emphasized that fruit as well as chicken were good for health. She also expressed that she had not eaten eggs since she got sick last time. She said fruit, especially apple and banana were good for health.

It indicates that income level determines the perception of what is good and what is bad. Medicinal and herbal products were also considered good by many mothers. One mother revealed that multivitamin tablets might make health better. A few others believed that things made by traditional pharmacists like herbs, *turanjbeen*, *ghutti* and *arq*, as well as spiritual and magical things might made health better.

Disliked foods: Some respondents expressed that they have to eat rotten, old and expired foods. As one poor father replied: 'health deteriorates when we are hungry, and hunger persists with eating onion and *suka tukkar* (old dry loaf), as we often live in such a situation.' Most of these respondents opined that for better health, they needed affordability to buy meat, fruit and milk, which, according to them, had been fairly expensive in present times. These parents indicated that their family members often had to use old and expired foods taken from neighbors and relatives. The mothers wished to eat fresh foods and according to their choice. Poverty had restricted their dietary preferences. One domestic household servant informed that they often collected old and expired foods (*joothay khanay*) from the houses where they work. They told: 'they burn the sour smell of old and expired curry and foods by heating it well due to their inability to purchase proper food'.

Intra-household politics and diet: The survey data revealed that household heads and male children were served first with the meals in the households, and often with a big and better portion of food. The food quantity and quality were highly gender-sensitive. It was due to this discriminatory norm that one traditional birth attendant emphasized that female baby deserves to be breastfed more than boy child because females have to face difficulties in later life: 'female baby needs to drink more (two and half year while boy for only two years) because she is a like a "guest", as she has to leave parents' house after marriage and work hard thereafter'.

The older women in the households or the neighborhood act as authority and experts because they influenced pregnant and lactating mothers to determine "what was good to eat and what was not good to eat. Whenever food is secured, health becomes good. Milk or dairy products increase the baby's and mother's weight. The availability of food comes first before handling and hygiene. A mother said that the availability of raw buffalo milk increased her weight: 'after marriage, there were cows and buffaloes in my husband's house, and my mother-in-law gave non-boiled milk to my baby and me. In the early days of marriage, I resisted this practice because I used to think it was

unhygienic to drink raw-milk without boiling, but she said, 'listen, this is my house, there is no such care in my house. I became silent, but later I found that my child and I have started growing speedily with milk. So, in this way, both my son and I improved weight. I remember I used to look like a skeleton in my parents' house, but I now have got flesh all over'.

Perceptions about hot/cold and restricted foods: Data revealed that hot foods, pulses and some vegetables such as onion, cauliflower, and spinach were considered bad for small infants and pregnant and lactating mothers. It was perceived that eating loaf could cause obstruction while delivering a baby. Grandmothers forbade using different kinds of peas and pulses because these might cause *tabkhir* (acidity), which indirectly disturbs the fetus/baby. It is better if the mother prefers broth and *yakhni* (chicken soup). It was also believed, what mother eats is excreted through her baby's excreta. Some mothers also feared that watermelon could be dangerous; old and young are used to drink water immediately after eating it and this could cause diarrhea.

Moreover, purified butter and lemon might trigger asthma. Although pulses are widely used but were restricted to either small babies, pregnant and lactating mothers. Children between the age of six months to two years are given no hard to digest but only soft food, such as yogurt, boiled potatoes, egg, sagodana, bread, and milk.

When a mother knew about the sex of the baby during her pregnancy, reportedly, her diet was influenced. Data revealed that mothers took different diets during pregnancy and lactation. For example, one mother reported: 'I used to eat a good diet, especially meat when I was pregnant with a baby boy, but I did not care much about diet when the girl was inside.' One traditional birth attendants advised hot foods in winter and cold foods in summer: "foods vary for summer and winter. *Sattoo* (wheat grain) and a drink made up with *gur* and lemon are good in summer, but *desi ghee* is perfect in winter. The mother should refrain from *dal-chana, sag*, rice, onion and hot things. Meat and potato in summer are not good, but milk and mango pulp can be taken'.

Does quality matter or everything is good?: Everything was considered good by extremely poor mothers. Some mothers perceived that even rice and wheat are fine for making good health. This indicates how the perception of food and diet changes with the level of the household's income. In extreme cases, carbohydrates are also valued. One mother stated, 'everything is good for poor people; we can just pronounce the names of good things but cannot eat them'.

Marketization and low-quality cheap junk foods: The use of low-quality junk foods was frequent. Children wasted money in purchasing several substandard junk food items available in the streets and local shops. Parents were observed allowing their children to use these unhealthy things from the local shop. In villages, local unregistered companies sell their products without fear of any penalty. The packing of the Multinationals' (MNCs) products attracts due to shining, reflective, colored, and beautiful pictures of healthy kids playing and smiling in the best of physical health due to nutrition. Unhygienic soft drinks are sold very often in both urban and rural areas. Some experienced mothers emphasized on using the 'healthy foods instead of marketized foods'. Although market-based ready-made products are easy to prepare, they do not make the children healthy. Instead, the mothers preferred using hand-made complementary food such as meat, soup and rice for infants and young children, and avoiding low-quality things. In this matter, discussion with a local traditional pharmacist is summarised here:

We're living a substandard life. Everything has become expensive, polluted and impure. The pesticides are mixed in all foods. Poultry farming isn't good; we have restricted ourselves to eat only unhealthy diets. Once upon a time, people used to live a healthy life free of many diseases because they heavily relied on natural diets. Then people were not getting vaccines and antibiotics. Everything was at a low price and cheap. Inflation has made a living a difficult task for impoverished households. There was no garbage around the houses as it is nowadays. The population has increased and resources have become scarce. Time was good in the past, and people used to live a happy and healthy life. Today everyone looks pale, frightened, worried and psychologically disturbed. It is just due to inflation and poverty in this so-called modern period of life.

Climate change and low production: Famers believed that change in climate was impacting crops' yield. One person posited:

> *Our climate is changing, we don't know why it is so, but we are pretty sure that such change is regularly occurring every year. We remember it was not in the past, but this phenomenon has taken place more frequently in the last few years. Both summer and winter are fluctuating temperatures. Also, temperatures are going to be extreme every year. It is harmful to our cash crops, too. Also, the chances are that flash floods are worsening gradually and could cause devastation. Almost every year, our crops are destroyed as*

> *floodwater inundates the fields; thus no income is generated from the harvest, and we remain unable to pay back our loans. We can't imagine spending money on our health in these circumstances. We sometimes become unable to feed ourselves as well as our children properly.*

Discussion

Poor and malnourished mothers showed strong emotions and extreme grief over their affordability to buy meat, fruit and other high energy food items from the local markets because the income of their household was too low to afford such expensive commodities,[21] though available for better-off people. They expressed deep resentment and pain on such economic injustice.[22] Coping with diet poverty affected not only their nutrition but also physical and psychological health.[23] Coping strategies led to an increase in disliked meals.[24] Data showed that poor and rural households' caloric consumption was lower and mostly comprised of only wheat. Also, the Household Integrated Economic Survey and World Bank[25] found that average caloric consumption in the poorest households was lower than the recommended level, and the major source of caloric consumption was wheat or rice. Also, poor and rural households' cost of consumption was lower than the non-poor and urban households.[26,27]

Data indicated that the poor became ready to send their female members to work as domestic household servants. One unemployed husband said to her wife, '*Ap Kamao tay ap khao*' [I have nothing; go, work and eat]. Poor mothers coped with hunger situations by borrowing

[21] Sen, *Poverty and Famines*, 154.

[22] Nora Brickhouse Arriola, 'Food Insecurity and Hunger Experiences and their Impact on Food Pantry Clients in the Tampa Bay' (Graduate Diss., University of South Florida, 2015).

[23] Craig Hadley and Deborah L. Crooks, 'Coping and the Biosocial Consequences of Food Insecurity in the 21st Century', *American Journal of Physical Anthropology*, 149:S55 (November 2012), 72-94.

[24] Arriola, 'Food Insecurity and Hunger', 84.

[25] World Bank, 'Revisiting the Poverty Debate in Pakistan', 2016.

[26] Sohail Jehangir Malik, Hina Nazli, and Edward Whitney, 'Food Consumption Patterns and Implications for Poverty Reduction in Pakistan', *Pakistan Development Review*, 54:4 (2015), 651–70.

[27] Friedman, Jed, Seo Yeon Hong, and Xiaohui Hou, *The Impact of the Food Price Crisis on Consumption and Caloric Availability in Pakistan*: *Evidence from Repeated Cross Sectional and Panel Data*. Health, Nutrition, and Population Discussion Paper (Washington (DC): World Bank, 2011).

and taking foods from other houses [where they worked], often left-over and old meals, which they had to burn for killing the bad smell. This situation suppressed their dignity and self-respect and caused stigma and alienation. Likewise, Maxwell and others[28] (2008) have analyzed how poor tackled the problem of food insecurity in sub-Saharan Africa and found that the poor often cut the meal size or number, used less of preferred diet, borrowed from other households, sent family members away from the household, and even begged for food.

Much significant finding was the fact of 'commodification of food,' which contributed to food insecurity. Even the village mothers did not drink milk and preferred selling milk, desi ghee, and desi eggs to earn money for buying dowry and other household items. Locally made purified butter (*desi ghee*), known to be energetic, is, unfortunately, 'sold out for money' and often, the rich buy this item. The evidence also confirms that food marketization has also affected the access of poor and rural population who prefer to sell food instead of using it.[29] This is much similar to the results of a recent study,[30] which states that 'while real household consumption spending has increased, caloric consumption has declined in the recent past, particularly for rural households'.

Meat, fruit and milk have become expensive nowadays. Poor children alternatively consumed jaggery and white sugar that caused protein and micronutrient deficiencies. Unfortunately, due to wide corruption and bad governance, old-time was romanticized when life was easy and healthy, as was pronounced: 'today everyone looks pale and frightened because of inflation and poverty', indicating that the government and public cannot the markets. Social welfare has been a long-awaited long wish, therefore it is high time that neoliberalism thinking now must reconcile with humanity. This is endorsed by the fact that the cost of food rose to 270% between from 2000 to 2013.[31] From

[28] Daniel Maxwell, Jennifer Coates and Bapu Vaitla, '*How Do Different Indicators of Household Food Security Compare? Empirical Evidence from Tigray*' (Feinstein International Center, Tufts University, USA, 2013), 1-26

[29] Zulfiqar Ahmed Bhutta, Albertha Nyaku, Jane Keylock, Shehla Zaidi, S., KausarMalick, and Jai Das, 'Landscape analysis of multi-sectoral initiatives for under-nutrition in Pakistan Landscape analysis of multi-sectoral initiatives for under-nutrition' (July 2015), 1–60. DOI: 10.13140/RG.2.1.1096.6168

[30] Dhushyanth Raju and Ritika D'Souza, *Child Undernutrition in Pakistan: What Do We Know*? Washington, D.C., The World Bank, (2017), http://elibrary.worldbank.org/doi/book/10.1596/1813-9450-8049, 9.

[31] World Bank, 'Revisiting the Poverty Debate in Pakistan,' 2016.

2007 to 2009, wheat flour and rice price rose to 200%, and that of onion, milk and oil by 150%.

There is evidence that the average diet in the country is not sufficiently diverse.[32] Mother's diet was found very limited and micronutrients deficient[33] that retarded and slowed down growth, immunity, and cognitive development of infants and young children. The investigation revealed that diet diversity was really a serious issue in poor households, which might have caused micronutrient deficiencies and stunting problems. They used a very limited variety of foods, which deprived them of the most important vitamins and minerals. Low dietary diversity issues can be mitigated through home gardening strategies, which might be the most easily applicable option to tackle micronutrient deficiencies and thus children and mother‘s undernutrition. Similar suggestions have been presented[34] by a few renowned scholars who consider poverty as the major cause of micronutrient deficiencies.

The literature from Afghanistan has found the positive effects of kitchen gardening in Afghanistan in increasing households' incomes.[35] The same literature found that daily diets were ranked as low, while rarely used foods such as fruits, vegetables, and animal-source foods, were considered as healthy. It also showed no cultural barriers in the form of false beliefs that have restricted the use of nutritious foods. The main issue was affordability, not availability. Pakistan, although an agrarian country in terms of cash crops, has 58% of households as food-insecure. Capacity building for scaling up kitchen gardening and livestock farming remains a great challenge so far.[36]

[32] Shabnam *et al*., ‘The Impact of the Food Price,’ 327.

[33] Government of Pakistan and UNICEF, ‘National Nutrition Survey, 2018’.

[34] Zulfiqar A. Bhutta, Tahmeed Ahmed, Robert E Black, Simon Cousens, Kathryn Dewey, Elsa Giugliani et al., ‘What works? Interventions for maternal and child undernutrition and survival,’ *The Lancet*, 371, No. 9610(2008): 417-40, DOI:https://doi.org/10.1016/S0140-6736(07)61693-6, accessed 2 February 2018.

[35] Gretel. H. Pelto, Margaret Armar-Klemesu, Jonathan Siekmann, and Dominic Schofield, ‘The Focused Ethnographic Study Assessing the Behavioral and Local Market Environment for Improving the Diets of Infants and Young Children 6 to 23 Months Old' and its Use in Three Countries,’ *Maternal & Child Nutrition*, Vol. 9 (2013), 35-46.

[36] Mariachiara Di-Cesare, Zaud Bhatti, Sajid Bashir Soofi, Lea Fortunato, Majid Ezzati and Z.A. Bhutta, ‘Geographical and Socioeconomic Inequalities in Women and Children's Nutritional Status in Pakistan in 2011: An Analysis of Data from a Nationally Representative Survey’, *The Lancet Global Health*, 3:4 (2015), 229-39.

Nearly less than half of the study participants were found food insecure, while 20% were severely insecure. Finding that one-third of the households experienced hunger is similar to the evidence already collected in earlier studies.[37,38] This specific context shapes experiences and behaviors at the micro-level.[39] Inflation, inability to procure commodity and lack of household income were found as major causes of food insecurity experience.[40] In addition, repeated floods from the Suleiman Mountains and Indus River increased poverty and social suffering. Climate change was believed to bring more poverty and deprivation.[41]

Overproduction of the crop of wheat, profitable for landlords, investors and traders, induced ignoring other grains.[42] The micronutrient deficiencies in mothers and children find ground in low-diversity food culture and decline in traditional food production and distribution.[43] Policies and programs that focus on the most vulnerable population instead of commercialization are more likely to have a positive effect on food security and nutritional status. It should be made an urgent political and economic priority.

Also, data analysis revealed that the foods available in the local markets were not containing rich nutrients. The use of low-quality junk foods in rural and poor households was very common. There were reports of lack of hygiene, food adulteration and contamination. Certain

[37] Umar Ijaz Ahmed, Liu Ying , Muhammad Khalid Bashir, Muhammad Abid and Farhad Zulfiqar, ‘Status and Determinants of Small Farming Households' Food Security and Role of Market Access in Enhancing Food Security in Rural Pakistan,’ *PloS one*, 1, 2:10 (2016), e0185466, doi:10.1371/journal.pone.0185466, accessed 14 July 2018.

[38] Government of Pakistan and UNICEF, ‘National Nutritional Survey [NNS],’ 2018, https://www.unicef.org/pakistan/media/1951/file/Final%20Key%20Findings%20Report%202019.pdf, accessed 1 December 2019.

[39] Craig Hadley and Deborah L. Crooks, ‘Coping and the Biosocial Consequences of Food Insecurity in the 21st Century,’ *American Journal of Physical Anthropology*, 149:S55 (November 2012), 72-94.

[40] Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford: Oxford University Press, 2013), 154.

[41] Christina Cook, and Keren Bakker, ‘Water Security: Debating an Emerging Paradigm,’ *Global Environmental Change-Guildford*, 22:1(2012), 94-102.

[42] Government of Pakistan, UNICEF & UK Aid, ‘Cost of the Diet Analysis Report in 12 District, 17 Livelihood Zones-Pakistan 2018’, https://www.unicef.org/pakistan/reports/cost-diet-analysis-report-pakistan, accessed 20 June 2019.

[43] Kathleen M. De-Walt, ‘Nutrition and the Commercialization of Agriculture: Ten Years Later,’ *Social Science & Medicine*, 36:11(1993), 1407-16.

literature in Pakistan has alluded towards the sale of contaminated and unhealthy foods in different localized contexts.[44,45,46]

Male sex and dynamics of the diet were found relevant. The studies conducted by anthropologists and other researchers have found feeding better to those in the household who had to work for earning livelihood.[47] Anthropologists[48] indicated that non-egalitarian allocation of food within the household is not a type of deliberate discrimination, but its inner purpose is `household maximization,' explaining the concept that more active or income-earners, i.e., often the male members in households, have greater nutritional needs. But also some females and mothers who performed household chores were valued by the husband and his mother. The role of grandmothers was significant in decision making. Nutritional anthropologists also viewed intra-household politics and processes that cause variations in diet, nutrition and health.[49,50]

Our findings corroborate with the recent research[51] conducted by the Government of Pakistan, UNICEF, and UK Aid, finding that affordability for poor was the real problem in the district so the idea of kitchen gardening may be useful as households can not only eat the product but also sell it for income.

Many mothers' perceived that commercial foods were good; it shows the influence of business and media. This conversation with locals illustrated how bio-power's political control over the health and lives of the public[52] is maintained through the neoliberal commercial economy.[53]

44 Ahmed et al., 'Status and determinants of small farming households,' 85466. doi:10.1371/journal.pone.0185466.

45 Hassan Ali N., A. Farooqui, A. Khan, A.Y. Khan, and S.U. Kazmi, 'Microbial Contamination of Raw Meat and Its Environment in Retail Shops in Karachi, Pakistan,' *Journal of Infection in Developing Countries*, 4:6 (2010), 382-8.

46 Shela Akbar Ali Hirani, 'Malnutrition in Young Pakistani Children,' *Journal of Ayub Medical College Abbottabad*, 24:2 (2012), 150-3.

47 Merrill Singer, 'Critical Medical Anthropology`, in C. Ember and M. Ember (eds.), *Encyclopedia of Medical Anthropology: Health and Illness in the World's Cultures*, Vols. I-2 (New York: Kluwer Academic/Plenum Publishers, 2004), 23-30.

48 Ellen Messer, 'Intra-Household Allocation of Food and Health Care: Current Findings and Understandings—Introduction,' *Social Science & Medicine*, 44:11 (1997), 1675-84.

49 *Ibid*.

50 Shabnam et al., 'The Impact of Food', 327.

51 Government of Pakistan, UNICEF and UK Aid, *Cost of the Diet*, 2018.

52 Michel Foucault, *The Birth of Biopolitics* (New York: Palgrave Macmillan, 2010), 35.

Amartya Sen found that the ability to command the commodity[54] is the main factor behind food insecurity; his concepts of capability and equity are helpful in understanding accessibility to food. Participants stated that their health and nutrition status varied with good and bad income levels. The experience of food insecurity at the household level and government policies at the macro-level have a close connection.[55] Evidence showed that these macro-micro connections determine health and well-being.[56] Therefore, it can be suggested that the experiences, perceptions and practices of mothers regarding food insecurity and dietary diversity at the micro-level were constructed in a close connection with power, profit and political-economic decisions at the larger level.[57]

Conclusion

Both qualitative and quantitative analysis reveals a 'limited variety of diet', as the immediate cause of malnourishment. The root causes behind limited dietary diversity included a high focus on commercial production of wheat only. The low household income was another basic reason for a poor diet. The poor mothers reported being unable to purchase fruit; they never dared to touch them, and they could eat the meat only on Eid and marriage ceremonies or when someone got weak and sick. Domestic household servants even reported using old, rotten, dry, smelly, decaying and disliked foods. Some respondents complained that hunger could not be satisfied with eating onion and dry loaves only. Few mothers gave white sugars to small babies to kill their appetite. For extremely poor mothers, everything was considered good as they had no free choice to buy from the market. Low income and inflation put together rob people of the freedom to choose between healthy and unhealthy foods.

Additionally, the availability of cheap and low-quality junk foods contributed to disease burden. Hunger and malnutrition can be combated with adopting an approach ascertaining equity, development and social justice since poverty is not only acute but a chronic problem that travels down the generations. Also, control of markets is important so that the poor can also gain access to energetic foods such as fats,

53 David Harvey, *A Brief History of Neoliberalism* (Oxford: Oxford University Press, 2005), 1-14.

54 Sen, '*Poverty and Famines*', 154.

55 Molly D. Anderson, 'Beyond Food security to Realizing Food Right in the US', *Journal of Rural Studies*, 29 (2013), 113-22.

56 Barbara A. Laraia, 'Food Insecurity and Chronic Disease,' *Advances in Nutrition*, 4:2 (2013), 203-12.

57 Arriola, 'Food Insecurity and Hunger Experiences', 130.

proteins, vitamins and minerals. The study concludes that most of the constraints which need corrections are related to the political economy of the country.