

**Summer Training at
CECOEDECON Hospital, Jaipur**

Assessment of Food Security of Sahariya Tribe

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CERTIFICATE

This is to certify that **Dr. VANDANA SINGH** has undergone summer training in CECEOEDECON, Jaipur from 2nd April to 2nd June '2018.

The candidate herself completed the project assigned to her during summer training. Her approach to the project was sincere and proactive. This summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Hospital and Health management.

I wish her success in all her future endeavors.



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To whom so ever it may concern

This is to certify that Dr.Vandana Singh, a student of MBA (Hospital & Health Management), IHMR University, Jaipur , has successfully completed 2 month's (From 3rd April, 2018 to 2nd June, 2018) summer training at CECOEDECON. During the period of her training with us she was found punctual, hardworking and inquisitive.

We wish her every success in life.

Manish Singh
Executive Director



ACKNOWLEDGEMENTS

The journey to become a wise and responsible professional doesn't concise to classroom learnings.

First, I would like to thank **Mr. Manish Singh**, Executive Director, **CECOEDECON**, for the support and guidance given to me during my summer internship.

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ABBREVIATIONS

PDS: Public distribution system

GHG: Green House Gases

CECOEDECON: Centre for Community Economics and development Consultants Society

CECOEDECON

Introduction:

The Centre for Community Economics and Development Consultants Society (CECOEDECON) was founded by a small group of young, committed social workers to provide immediate relief to the victims of devastating floods in Jaipur district in 1982. From a very modest beginning as a relief agency, CECOEDECON has evolved into a civil society organization pursuing integrated participatory development and advocating human rights. The organization has an authentic and informed perspective of micro-macro dynamics. The criterion for undertaking interventions is that they should lead to community self-reliance and empowerment. Thus, its work centres on the unfulfilled needs and ignored rights of partner communities.

Vision:

To achieve such development which is socially acceptable, economically viable, environmentally sound, effective in impact and addressing to needs of the under privileged and marginalized people.

Mission:

To build the capabilities of CECOESECON'S partner communities Scheduled Castes and Tribes, Small and Marginal Farmers, the landless and deprived Women and Children in order to ensure that they are able to take action independently and effectively to secure their long-term well-being, thereby promoting their Empowerment and Self-Reliance.

OBSERVATIONAL LEARNINGS

I) GENERAL FINDINGS ON LEARNING

Critical factors affecting the functioning of the Project as observed were:

- A-lack of knowledge among the farmers about the climate change.
- B-lack of knowledge about the new agriculture practices.
- C-lack of support by the government towards cultivation of indigenous crops.
- D-farmers are converted into daily wage labours.

II) CONCLUSIVE LEARNING AND SUGGESTIONS

General findings mentioned above gives an idea about the shortcomings of the ABC Project. Therefore, for the efficient working & effective results of the project I would suggest –

- A-local government agriculture department should incorporate knowledge of climate change and shift in rainfall cycle to the farmers.
- B-new agriculture practices should be taught.
- C-promotion of indigenous food.

***“Indigenous food systems contain
treasures of knowledge
from long evolved cultures and
patterns of living in local ecosystems.”***

REPORT

INTRODUCTION

India ranks second worldwide in farm output which contribute to 13.71% of total GDP. Rajasthan being the largest state of Republic of India covers 10.4% of the land, an area of 34.2million hectare, state's economy is primarily dependant on agricultural and pastoral. Rajasthan is highly diverse in its agricultural produce. The state is India's largest producer of seed spices (coriander, fenugreek and cumin), Bajra, oilseed(mustard). Rajasthan has a major contribution in production of soybeans, coarse cereals, pulses, groundnut and gram. Wheat and barley are also cultivated over large areas. Pulses, groundnut, oilseeds, cotton and tobacco are state's cash crops. A major change has been seen in crop preferences. More than 33% of the land cultivated is now devoted in agriculture of cash crops indicating commercialisation of agriculture. Such crops are now majorly cultivated in the state and have replaced the Indigenous crops. Indigenous crops are native to the area they grow. These crops grow in harmony to the temperature and climate. Indigenous food provides some extra and important nutrition required to survive in the respective areas. This shift from indigenous crops to cash crops can be dangerous as it took away the nutrients required to be healthy and fit in the climatic conditions of the state.

Apart from the nutritional and economic value they also hold some commercial, medicinal and traditional values. Traditional crops are also considered important for sustainable food production as they reduce the impact of productions system on environment.

. This shift to commercialisation brought new challenges and difficulties for the small or marginal farmers. Marginal farmers are those who cultivate up to 1 hectare (as owner or as tenant or share). Marginal and small farmers account more than 58% share in total area of Rajasthan. Indigenous crops are well adapted to the climatic conditions and soil that requires less external efforts for the production for example- Bajra, Millets, Maize, Kachri etc. Loss of nutrition from Indigenous food, more efforts to grow new crops, expensive seeds, reduced demand and production of traditional crops, change in climate, frequent droughts and famines have put up a question mark on the food security of such marginal farmers and rural poor.

Food security comprises of 4 keys i.e. Accessibility, Affordability, Availability and utilization of food. To ensure the health and well-being of people these 4 keys are essential and must be lined together. Loss of indigenous crops will challenge all of these for the small and marginal farmers as crops cultivated because of the market forces and climatic conditions will replace the indigenous food.

Indigenous food crops like Jwar, Mandva, Millets, Bajra, Chana. These food grains contain digestive fibres, vitamin-B complex, essential amino acids and fatty acids in good quantities. They are rich in minerals, iron, calcium and magnesium. These help in reducing risks of diseases and prevention of many deficiency diseases. Millets provide variety to our food and provide nutrition at low cost. Increasing dominance of only two food grains mainly Rice and Wheat has modulated the whole cropping pattern.

Judging the current scenario, we have to prepare ourselves to fight with climate change and malnutrition. it is very important to add traditional food grains to our plate.

SAHARIYA TRIBES

Indigenous population of the world is known as tribals and in Indian language known as ‘Adibasi’ and they constitute to 8.1% of the total population of the country. The government of India has identified 72 tribal communities. The Sahariya tribes are one of those primitive tribes, they are inhabitants of Baran district state of Rajasthan. Total population of Sahariya tribe is 79,312 majority (93%) of them are inhabitant of Kishanganj and Shahabad block of Baran district. Nutritional status of population depends on consumption of food which is influenced by availability of food and purchasing power. Sahariyas were badly effected in drought and famine of 2002. around 44 Sahariyas lost their life due to hunger and consumption of poisonous substances. The hunting-gathering Sahariyas have survived on minor forest produce and a kind of shifting agriculture. Agriculture labour and minor forest produce provide most of their sustenance. The drought forced them to have poisonous seeds and fruits.

Several studies have shown a close relationship between the tribal eco-system and nutritional status even occupational profiles of tribal population depends on eco system they live in.

Tribal population are at ‘risk of’ under nutrition as their food consumption depends on primitive agriculture pattern and government food supply. Declined consumption of indigenous food by tribal people can be a reason for the increasing incidences of nutritional deficiency diseases and disorders

PDS

Public distribution system of India is one of the world’s largest public distribution system.it comes under the national food security act,2013 which promises to deliver subsidised and non-subsidised food grains through the channel of ration shops and fair price shops, under NFSA eligible households are categorised into following.

Priority households-they are entitled to 5kg of food grains per person per month at nominal price. Antyodaya households-entitled to have 35 kgs of food grain(wheat) per household per month.

Sahariya tribes comes under the Antyodaya category every month they receive wheat, sugar, pulses (variety depends on availability) cooking oil, kerosene oil every month with the help of their ration and Adhaar cards.

Climate change

Climate change is a serious issue around the globe, it has a serious impact on the natural resources and will affect the sustainability of life on the planet. Since the beginning of 21st century India has experienced the effect of global warming. Increase in CO₂ levels and average temperature has led to the longevity of hot waves and warmer night temperatures. Climate change and unfavorable weather has adversely affected agriculture. Heat waves destroy crops leading to crop failures and yields decline. In the current scenario India is experiencing a seasonal variation. Between 1891 to 2009 India has experienced 23 large scale droughts and the number is increasing. Monsoon seasonal rainfall has decreased by 6-8%. Increased Greenhouse gas emissions and concentrations will lead to warming of 4degrees by 2100. Sea level has risen between 1.06-1.75 mm/year. Majority of the population relies on climate for agriculture, forestry and fishing. This deviation is indicative of dangerous situation which will be unfolding in the future. Rainfall, sunlight, appropriate temperature, quality of soil, water supply and good air quality are few important markers for good crops.

Rainfall in India originates from Indian and Arabian seas. Rainfall has a direct relation with the food production. Agriculture of India mainly relies on rainfall. State of Rajasthan has severe water crisis, change in climate will affect the soil moisture, ground water levels and water cycle. If the climate is kept unchecked due to human activities we may progress towards crisis. It would be very difficult to ensure food security under the changing climate when 33% of the population is extremely poor and half of the children are malnourished.

PROBLEM STATEMENT

Tribal people live in harmony with the nature. Their livelihood has been severely dependent on natural products and indigenous food system that includes land, water, soil, culturally important plant and animal species on which indigenous people have relied over around thousand years. These indigenous foods provide both nutrition and diversity in their diet. Baran district of Rajasthan witnessed a deadly draught in 2002. Out of the 47 districts of Baran, the Sahariyas consist of 21% of the total population and they were the most severely affected ones. 44 deaths happened in this single community due to hunger and consumption of poisonous food. Not only this tribe became infamous for hunger death but also marked their plight of being incapable in arranging meal for a single day.

Since then the rainfall has greatly reduced. Once popularly known as 'Cherapunjee of Rajasthan' this place now witnesses hardly 25 days of rain annually. Human activities such as industrialisation, greenhouse gas emissions have adversely impacted the environment. GHG emissions are one of the leading cause of global warming. In countries like India, climate change is proving out to be a havoc for agricultural practices.

Shortage of rainfall has almost finished the indigenous food and forest's wild fruits. This change due to climate and weather in turn took away the essential nutrition from the food basket. Now in such adverse conditions the Sahariyas are mostly dependent on PDS. Sahariya is the only primitive tribal community which has been provided with PDS supply at zero price. But this change in their dietary pattern is not the best plan to their health in extreme of weather. Since it is not a part of their traditional dietary habits so it may hamper their health.

LITERATURE REVIEW

According to a study by Khan, Global climate change such as the shift in pattern and intensity of rainfall and variations in temperature reduce agricultural yield and damage infrastructure increasing poverty and threatening food security.

A study by *Andreas W*, Many traditional or indigenous vegetables are characterized by a high nutritional value compared with global vegetables like tomato and cabbage. As source of essential vitamins, micronutrients, protein and other phytonutrients, traditional major role in strategies to attain nutritional security.

A study done on Approximately 70% population of India lives in rural areas. In rural India people produce a considerable part of their own food, the impact of climate change on food products can decrease availability to the extent that distribution choices have to be made within the household. Food insecurity is linked with malnutrition.

RESEARCH QUESTION

What is the status of food security and diversity of Sahariya in Baran district, Rajasthan of marginal farmers since last two decades?

Rationale:

The food diversity and food security are essential elements to prevent malnutrition. Since Sahariya has seen a lot of deaths due to malnutrition in 2002, so this study aims to understand their present food basket as an adequate and diverse diet is necessary for a healthy well being

OBJECTIVES

1. To examine the diversity in food practices
2. To gather the perception of Sahariya's on the adequacy and diversity of PDS
3. To identify the reason behind the current status of food security and diversity.

METHODOLOGY

STUDY TYPE-Descriptive cross-s sectional study.

STUDY AREA- Shahbad block of Baran district of Rajasthan.

SAMPLING METHOD- Non-probability method

SAMPLING SIZE-30

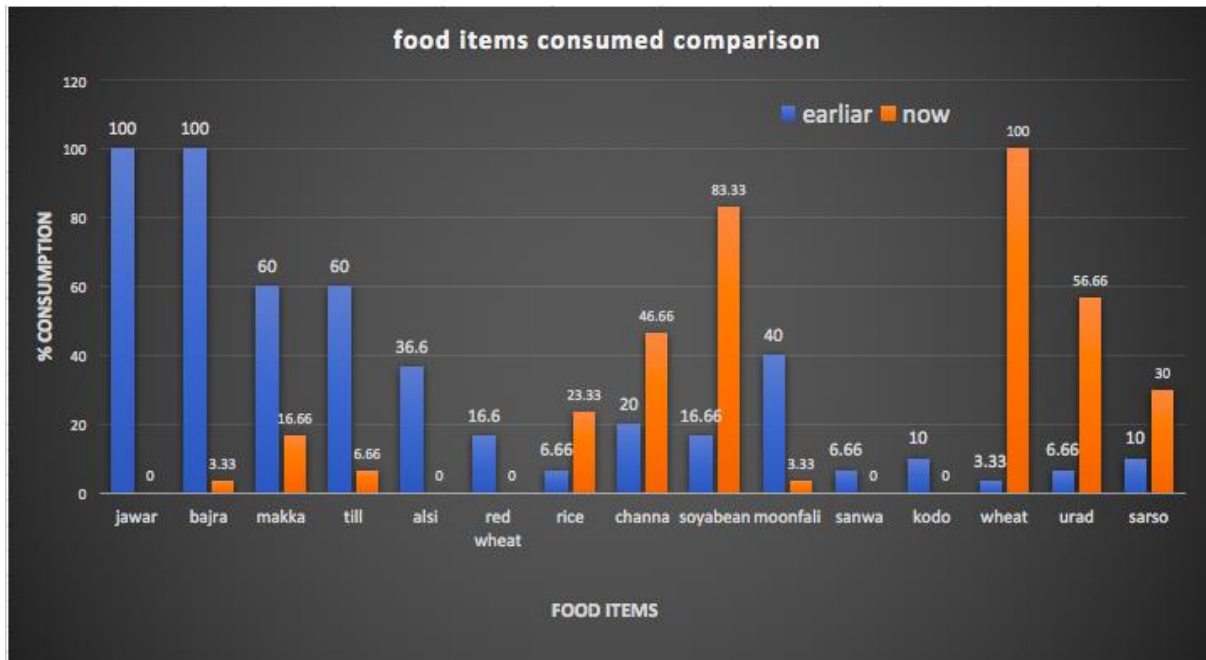
DATA COLLECTION TECHNIQUE-Face to face interview

DATA COLLECTION TOOL- Semi structured questionnaire,
face to face interview, FGD, in depth interview

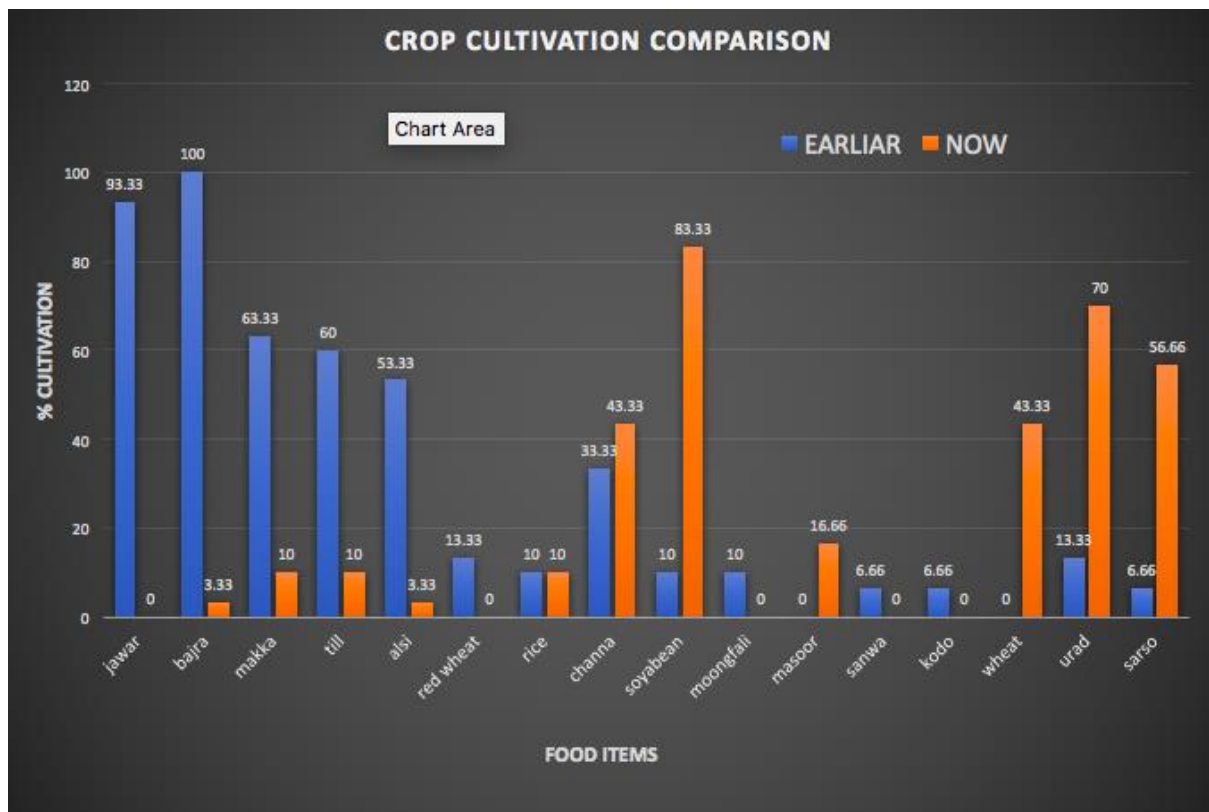
DATA PROCESSING AND COMPILATION

All the answers to the interview questions were then entered in a password locked computer for further analysis and excel sheet was used to enter all data from which those data needed for analysis and interpretation were separated. Responses were coded, where 1 stands for yes, 0 for no. And compilation was done in advance excel. After removing the duplication and errors, all data was verified and double checked before initiating analysis

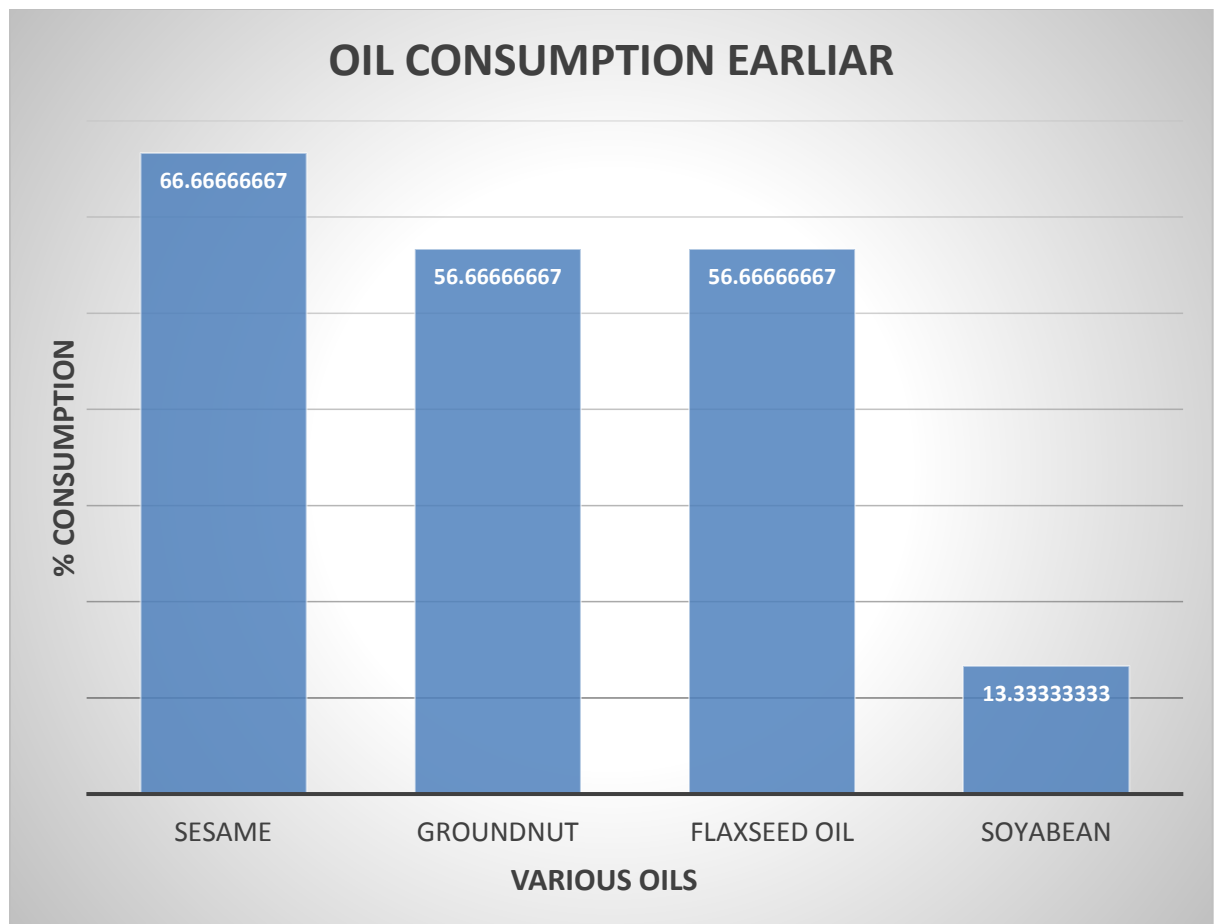
SURVEY RESULTS –



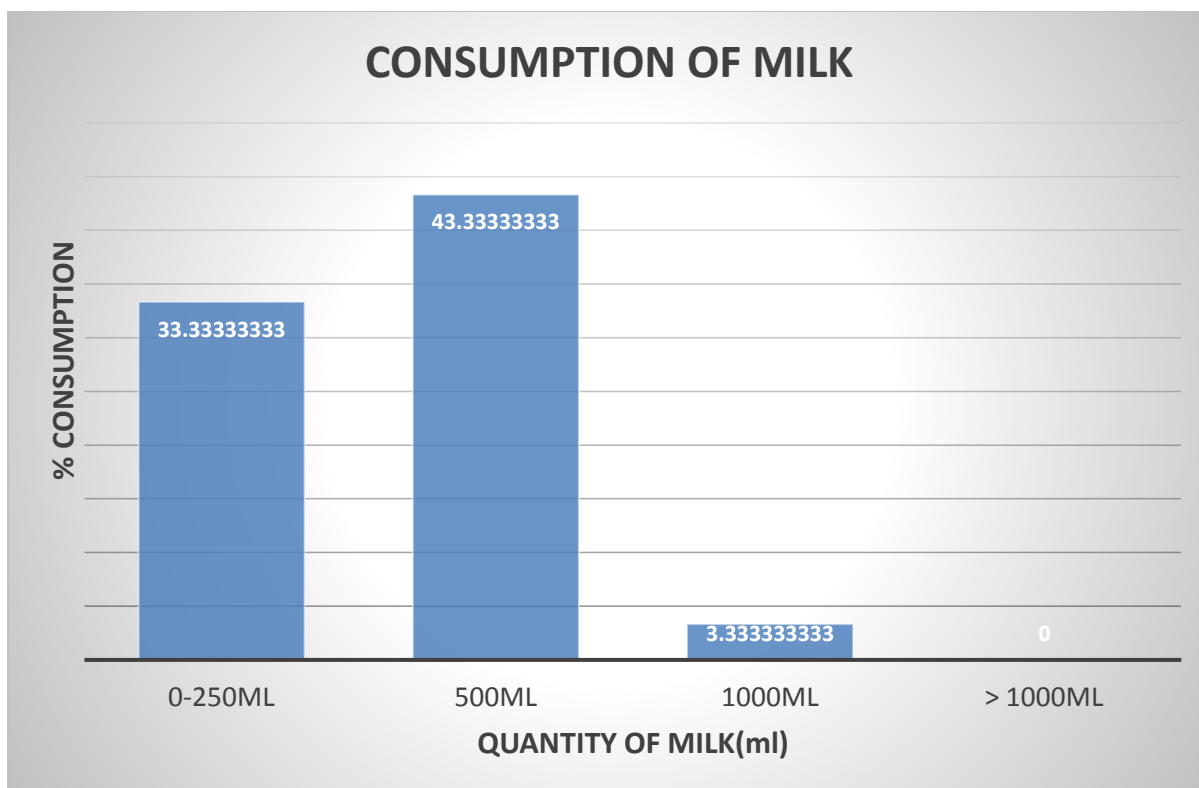
Above graph depicts that in earlier times jawar and bajra were consumed by 100 % respondents followed by 60% of makka and tilli ,40% moong phali,37% alsi,20 % channa,17 % Red wheat and soya bean, 10% kodo and sarso,7% rice and urad,3 % wheat. whereas nowadays 100% respondents consume wheat, 83.3% soyabeen,56% urad, 47% channa and 23% rice. And jawar, bajra,makka, kodo, red wheat, sawa, alsi are seldomly seen on the food plate.



Above graph depicts that in earlier times 93% jawar and 100% bajra were cultivated respondents followed by 63% of makka and 60% tilli . whereas nowadays the trend has shifted, 83% soyabean ,70% urad,57% sarso. wheat which was not cultivated earliar now holds a grip of 43% and instead red wheat,kodo,sanwa moongfali have vanished from the fields.

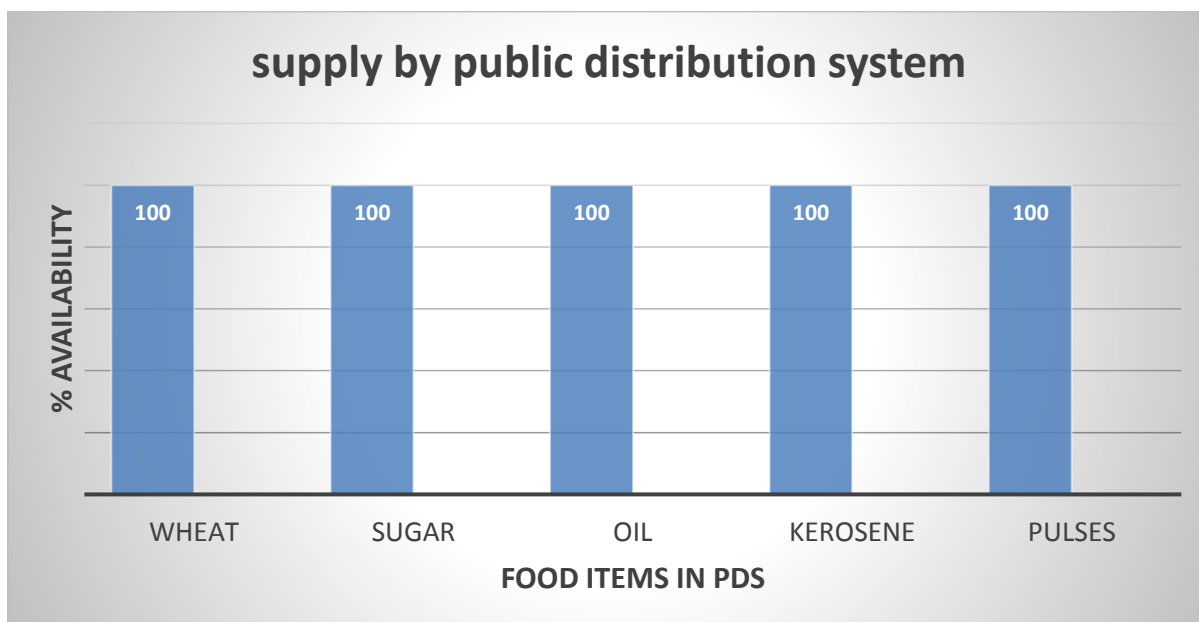


It is seen from the above graph that sesame, groundnut and flaxseed oils were majorly consumed however now refined oil is only used

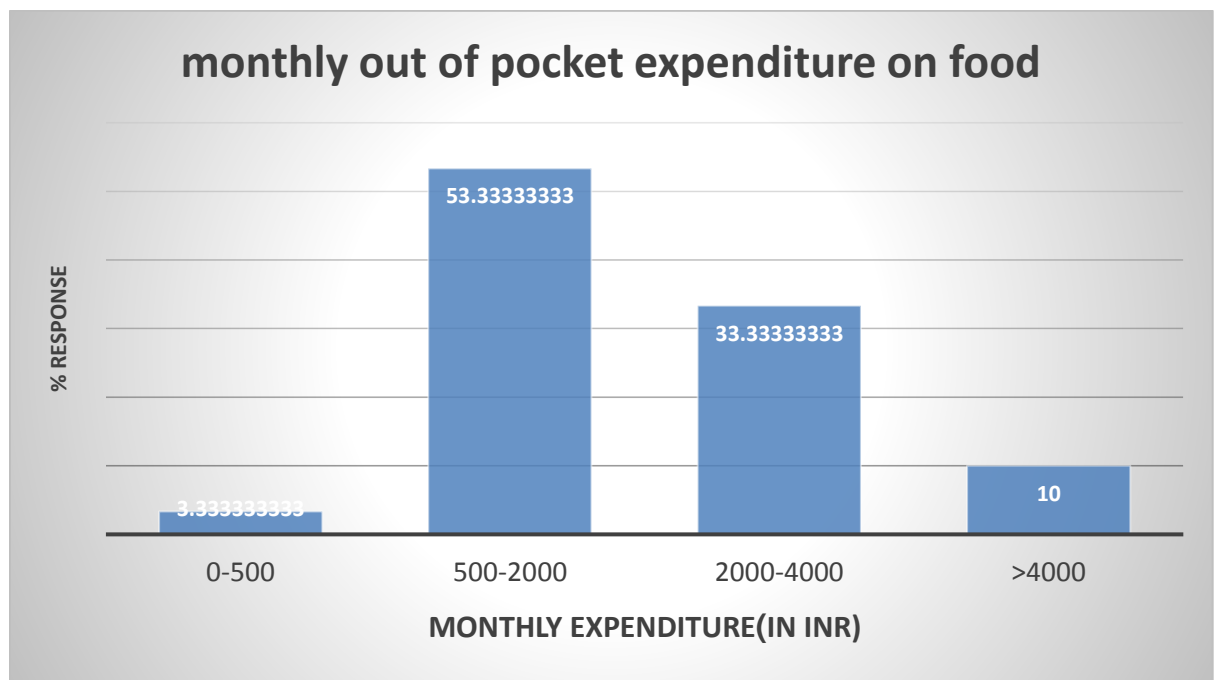


In the above graph we can trace that milk which is a complete food is almost absent from their food basket

Hardly 3% of the households are having 1litre of milk.



It is evident from the graph, that 100% respondents are getting wheat, sugar, oil, kerosene and pulses from their respective PDS(Ration card).



It is seen that 53% of the households spend Rs500-2000 for groceries and around 34% spend Rs.2000-4000. However earlier no such expenditure was there over food.

FOCUS GROUP DISCUSSION –

The researcher went to shahbad district in baran district of Rajasthan. This research was focused on food security of saharia tribal community. Sahariya tribe has been infamous in history for hunger deaths. The purpose of the visit was to understand the current food basket of the Sahariyas and to peep inside the standard of living of women of this tribe.

On 17 may at 11:30am a series of female focus group discussions were conducted at the Atal seva kendra in khushiyara village of shahbad (Baran). Each group was comprised of 10 females of age group 45 and above. Participants were diversified in the occupational backgrounds like some of them were the Narega workers, marginal farmers, farm labourers and home makers.

Questions asked in FGD'S were

1. What all eatables you used to bring from the forest area?
2. What you used to grow earlier and now?
3. What you used to consume earlier and now? And From where do you get it?
4. How much time you used to spend on cooking before and now?
5. What are the prevalent diseases here?
6. What line of treatment do you use?

Inference:

After conducting fgd we got the following answers:

- Earlier the commonly grown crops were jwar, bajra, rali, kodu,alsi, kathiya gehu, til, mecca, khutki, chana,tarameera, moong.
- But now the agricultural pattern has shifted to rice, urad, soyabean, gehu, sarso, chana
- Sahariya earlier used to consume their agricultural product only but now except it via PDS wheat,pulses, refined oil has also made a place on their food plate
- Pds provides 35kgs of wheat, 1 unit of sugar per person, oil 1 unit per person every month.
- Now cooking takes up more time than earlier and in a way it has increased the burden on the head of females.
- The prevalent diseases are arthritis(joints-related), digestive problems, common cold cough, and malaise
- Skin diseases are the most common among others. The reason behind this poor hygiene practices as sahariya community generally takes bath once in 10-15 days mostly.
- These people generally take home remedies. Due to high temperature and heat waves , children are attacked by heat strokes for which they apply henna to the soles, rub onion and garlic over the body parts, and give them bath with the water dipped in chela flower.

When enquired a little a Lady named Bimla Devi shared her daily routine with us. Her day starts at 5am in the morning, in between 7-8 she leaves for NREGA while taking only a cup of tea. Before starting her work around 9 am she eats 2 plain chappatis and starts doing the work allotted to her. Generally the work includes physical labour such as construction. After working for around 4

hrs in extremes of temperatures she sits under some shelter and have her lunch again 2 plain chapatis. After taking a small nap of around 30 mins, she again gets back to work. Her work as a labourer gets over by 5pm, but a lot is demanded from her afterwards also. She prepares dinner for the family. The dinner comprises of chapatis and dal provided by PDS. After ensuring that everyone in her family of 9 people she takes her dinner by 7pm. Then she gets busy in her household chchores, and she sleeps by 10pm. Daily routine of Bimla Devi is just an example how the life of a typical sahariya women is.

RESULTS and INFERENCE:

By bringing together the knowledge we gained from face to face and in-depth interviews of specific questionnaire, focus group discussions we reached the following conclusions:

1.

There has been drastic change in cultivating of crops over last two decades. Jawar and bajra were the two dominating crops in the earlier times but now they have been replaced by wheat. Oil of sesame and Alsi(flax seed) were majorly consumed cooking oil. Now instead of them refined oil is used(distributed by PDS). Several other indigenous food items like moongfali, kodo, sanwa, red wheat, makka etc are neither cultivated in fields nor consumed.

Fruits and eatables that were locally found in the forest i.e. Batera, Kachri, Chareta, Mahua, Fang-chareta, Aachaar, Kumar, Khakoda, Tendu, Kakoon, Gond, Gwarai(like shakarkand), Razaan, Chani-Bajar, fumangsu, Chirangini, Kureda, barhaan, Bichota, are no longer used.

Sadly, this loss is due to devastating change in the weather and climate. Once famous as 'Cherrapunji of Rajasthan' this place used to witness high levels of rain for full 120 days now encounter just 20-25 days of rain. The precipitation cycle is influenced badly. And the famine and draught took away everything from the jungle. Rendering a question mark on the health of the Sahariya community.

2. The PDS is providing 100% supply to Sahariya's. It supplies food grains and distribute other essential food items. It is a system that checks on scarcity and distributes food grains in subsidized prices. Although it ensures food security yet it is not diverse in macro and micronutrients. Earlier pds used to provide fortified food which again was diverse but was sufficient in nutrition. Though by PDS government is taking care of their survival yet their physiologic needs are not met up.

3. Sahariya's now enjoy food security. PDS has ensured that there is food on their plate but their diet is not diverse enough to prevent them from adverse conditions, deficiencies and diseases. PDS is supplementary and does not fulfil the entire requirement of any commodity distributed under this provision.

Our few other observations were:

The nutrition which was helping them to survive in harsh climatic condition is hampered. Several important macro and micro nutrients are now missing from their food plate and basket. Change in cooking oil took away their important and rich source of calcium. This mineral is not able to make its way in to their body in any form. Milk which is considered as a complete food is almost absent in their diet. As they don't have enough fodder to feed their cattle and have insufficient money to buy it too.

Sahariya's earlier occupation was farming but unsuitable climatic conditions and scanty rainfall have forced them to be a NREGA worker. This scheme has converted farmers to daily wages labourers.

RECOMMENDATIONS

- The Government should construct artificial water reservoirs which will help in rain water harvesting and this water can later be used for irrigation of crops.
- The Government should promote their indigenous agricultural products in national and international markets which will provide impetus to grow and empower them.
- Though government has been able resolve the issue of food security by providing food through various PDS, but it is still insufficient in fulfilling the nutritional needs of the people as it is no not a sustainable solution, instead a self-dependent mechanism/model needs to be thought of.

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ANNEXURES

ANNEXURE 01

The tool (questionnaire) that was used for data collection & survey is as follows.

QUESTIONNAIRE

Q1: what food grains are there on your plate

now?(wheat/makka/jawar/bajra/soyabean/alsi/urad/till/red wheat/dhan/channa)

Q2: what food grains are there on your plate before?

(wheat/makka/jawar/bajra/soyabean/alsi/urad/till/red wheat/dhan/channa)

Q3: what crop do you grow **now**? (wheat/makka/jawar/bajra/soyabean/alsi/urad/till/red wheat/dhan/channa)

Q4: what crop you used to grow **before**? (wheat/makka/jawar/bajra/soyabean/alsi/urad/till/red wheat/dhan/channa)

Q5: Are you still growing this crop?(yes/no)

Q6: If not then why?(less rainfall/market pressure/soil doesn't support this crop)

Q7: how much quantity of milk your family consume in a day? (In ml)(0-250ml/500ml/1000ml/>1000ml)

Q8: what is your monthly expenditure on food? (In INR)(0-500/500-2000/2000-4000/>4000)

Q9: Do you have Rashan and Aadhar card?(yes/no)

Q10: what are you getting from PDS via Rashan card?(wheat/vegetable oil/sugar/pulses/rice/kerosene oil)