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## Food Sovereignty in Nepal : A Current Appraisal

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### Abstract

Food sovereignty issue is integrated with agro ecology, climate and environmental justice, right of food workers, agrarian reform and justice to women and peasants. Despite of the promises of food security by the use of new practices and technologies global hunger has significantly increased. Industrial food production and indiscriminant use of chemical fertilizers pesticides have caused air, water and soil pollution and consequently environment and human health has been seriously impaired. Nepal being a developing economy could hardly endow all her possible resources just to address food security issue, hence the food sovereignty issue remained veiled till 2075B.S. Present study aims to enquire the working status of food sovereignty principal on real grounds in the country. The study is based on secondary data and is quantitative in nature. As pre design it is descriptive and prescriptive both. The study examines efficacy of food sovereignty principal on six pillar of it which are: focus on food for people; Value food providers; localize food system; puts control locally; builds knowledge and skills and work with nature. Examining through facts and figures, it is found that there is food crisis in the country with its quantity and nutritive value. The extended net works of cooperative throughout the country may play significant role in activating food sovereignty principals. Existences of middle man, poorer financial assistance, poorer insurance coverage, limitation of minimum price support policy to fewer crops are some of the major problems. In addition land fragmentation, diminishing wet and dry land area are additional bottlenecks. Indiscriminant use of chemical fertilizers and pesticides pose a crucial problem to practice organic farming. Activities as river bed farming, tharu alu cultivation, Jhol mal preparation, kitchen gardening, community seed bank and use of local bio char are working well with positive outcomes to support food sovereignty efforts.

**Key words:** Food Sovereignty, Agro ecology, Bio diversity, Organic farming, Indigenous Knowledge

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## Introduction

Food sovereignty is known as struggle for food autonomy since ancient times. Before colonization food gathering and production process was recognized as cultural knowledge of finding growing and distributing food in a sustainable manner. Aggravating pace of industrialization and green revolution attempts of 20<sup>th</sup> century further disrupted traditional practices as the use of synthetic fertilizers and pesticides diverted land ownership and control of food production towards large corporations. Though Nepal never had been colonial state, the open border access to India (one of the prominent colonial state) made it possible to come under influence of industrialization and green revolution effect and food sovereignty remains as a pertinent issue.

## Statement of Problem

Promulgation of the right to food and food sovereignty act 2018 is the first formal initiation by the government of Nepal towards right to food. This act emphasizes to identify food- insecure households, and penalize any possible action that abstains access to minimum food requirements. The act further talks about farmers' right protection. (Amnesty International Nepal report April 3, 2019)

Promulgation of the act however is an international obligation and destiny of "adopting best and performing worst" continues. Because of misappropriate food production and distribution there is food imbalance in Nepal and 7.8 percent of the population is facing severe food crisis. (Nepal News RSS, Aug 17, 2022, 20:44, Kathmandu)

According to world food program (WFP) overall 76% of dalits and 56% of women madhesh pradesh and Karnali Pradesh have been facing food crisis because of low productivity and poorer distribution policies of government. There are 117 food importing countries around the world and Nepal holds 73<sup>rd</sup> rank among them and 45 five districts out of 77 fail to provide sufficient food.(G.P. Gyanwali and P. Pradhan 2022, Nepalese Journal of Development and Rural Studies-2022)

Year 2022 was proven another challenging year that contributed several factors to heighten food insecurity. By the end of 2022 one in seven households were not able to have enough food to meet there daily needs. Some 1.8 million children studying at school were found food insecure. (WFP Nepal, 6<sup>th</sup> April 2023, 2022 Annual Country Report)

Nepal is still trapped in food security issue that simply stands for the fulfillment dietary needs of its people. Hence, despite incorporating food sovereignty in the constitution as a

fundamental right there is no alternative food paradigm observed yet. The legislatives, policies and programs related to address food sovereignty are at status quo. (The troubled path to food sovereignty in Nepal: Ambiguities in Agricultural Policy Reform, Puspa sharma and Carstern Daugbjerg, June 2020)

In this concern, therefore, this article aims to find out the implementation status of food sovereignty act. The study aims to answers following research questions.

1. What is the implementation status of food sovereignty act in the country?
2. What are the persisting bottlenecks of implementing food sovereignty act?
3. What could be the effective mitigating measures to implement the act?

### **Rationale of the Study**

Food sovereignty act 2018 has been promulgated in the constitution of Nepal and its implementation is essential to overcome the adverse consequences on human health and nature caused by industrial food production system that practices indiscriminant use of chemical fertilizers and pesticides. Since the act talks about agro ecology, right of women and food workers, conservation of indigenous patterns of farming in addition, it becomes a need of the day to implement it in all its manifestations. As per study, research and observation it becomes quite important to know the status of food sovereignty act implementation and the hindrances found in the implementation of the act.

### **Delimitation**

Following are the limitations of this study:

- Present study is based on secondary data collected from various published and online resources.
- Though the figures and facts are cross examined, being secondary in nature may not reveal 100% accuracy.
- The study is confined to Nepal hence may not hold well in other parts of the world.

### **Literature Review**

It becomes inevitable to have sufficient knowledge about food sovereignty to investigate the issue in Nepalese perspective. Various literatures have been reviewed in global, regional and national context in this study to assimilate authentic and precise knowledge about food sovereignty.

Food security and food sovereignty is sometimes miss-understood as same terminology but they are different in both approach and politics. Food security is just concerned to meet national food targets where as food sovereignty talks about destructive and exploitative environmental conditions. Beside procurement of food, food sovereignty attempts to promote control of community over productive resources; agrarian reform along with tenure security of small scale producers; agro-ecology; Indigenous people, workers and their knowledge; rights of women and peasants; social protection and climate justice.... Food sovereignty implies new social relations free of oppression and inequality between men and women, peoples, racial groups, social classes and generations (Change for Children Learn & Teach Food Sovereignty 2022-23, [www.changeforchildren.org](http://www.changeforchildren.org))

The concept of food sovereignty is the concern of small-scale farmers, peasants, agricultural workers, and Indigenous groups and is subsequently defined as “the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture system.” (Tree hugger: Food sovereignty: Definition, Principles and importance, By Autumn spanne, updated august 9, 2021, fact checked by Elizabeth Maclenan)

In the early 1990s the concept of food sovereignty came into existence when the groups of small scale farmers felt that their livelihood cannot be sustained by farming. Alliance of small scale farmers and other producers known as La Vía Campesina made an association at the 1996 World Food Summit. Since then the concept of food sovereignty is continuously evolving and some 500 representatives of farmer networks unions, social movements, and other civil society gathered to organize World Forum for Food sovereignty in Mali in 2007. (The Declaration of Nyeleni, Selingue, Mali Feb 23-27, 2007)

In the USA the thought of food sovereignty is integrated with international movement of global south to adopt low income communities particularly differentiated on color. The concept of food sovereignty articulates for food justice and security activities. The food sovereignty attempt in the USA is mainly constrained by the forces of neo liberalism that came with the promises of green jobs under market based approach butt made the residents food insecure. The concept of food sovereignty needs a broad based acknowledgement of indigenous knowledge and people resisting the consequence of neo liberalism. (Food Sovereignty in US Food Movements: Radical Visions and Neoliberal Constraints, Alison Hope Alkon and Teresa M.Mares).

In India during colonial period and after independence there were several farmer's movements against neo liberal policies that limited farmers, control in food system. Along with food security farm producers' organizations and cooperative societies played significant role to recognize the potentials of the farmers and to provide them policy support. For sustainable farming digital innovations agro-tech start-ups and field research carried out by social work professionals who aim to insure food sovereignty, human rights and social justice.( Kiran thampi, July 2023, Lesson learnt from social movements: farmers and food sovereignty in India, Approaches to Human Rights and Social Work)

In Bangladesh the green revolution of 1960s, diverted the growing influence of the state and World Bank made the living condition of the farmers vulnerable. Around three fourth of the work force engaged in farming are land less and corruption of politicians and administration are found to be main immediate and structural obstacles for them to have the access over state owned un-used land. In Bangladesh the food sovereignty issue has risen as a main political demand of landless people and is based on right to grow their own food, with own seeds in ecologically friendly and sustained pattern. (Source: Bangladesh: Right to Land and Seed by Jürgen Kraus and Heiko Thiele)

After the elaboration of the concept of food sovereignty in the Via Campesina forum in 2007 many south Asian countries have adapted it as an alternative concept to the market driven food security issue. It was revealed that the concept of food security did not give enough attention to the questions of where, how, by whom, and for who was food produced. The elaborated principles comprised greater participation of farmers in decision making to define indigenous food and agriculture system, access of marginal farmers to land, (including land reform) water, seeds, livestock breeds and credit; right of people to have access to healthy and culturally appropriate food produced in sustainable manner. Local people must be given priority in production, distribution and consumption of food. Food sovereignty further elaborates to ensure the rights of local people to have control over land, territories, water, seeds, livestock and biodiversity in addition to establish new social relations free of oppression and inequality. (The Rise of Food Sovereignty in Southeast Asia, Lassa Jonatan Anderias )

Proposition of food sovereignty rejects that food is just a commodity for international agribusiness, rather it advocates about the right to sufficient, healthy and culturally appropriate food. Food sovereignty values and supports to women, peasants, artisanal fisher folk, forest dwellers, migrants, indigenous people and workers. It further rejects any policy, action and programs that threatens their livelihoods. The concept of food sovereignty aims to food provider and consumer centric decision making process to protect consumers from unhealthy, inappropriate and unsustainable food practices. It is very significant to see that food sovereignty

recognizes to ensure the right of local inhabitants across the geopolitical borders. Food sovereignty emphasizes on conserving, developing, and managing local food system through appropriate research. In addition food sovereignty aims to promote methods that support eco system and maintain the cost of agricultural inputs low. (Six Pillars of Food Sovereignty- Nyeleni2007, Forum for Food Sovereignty Synthesis Report.)

As per the constitution of Nepal, food sovereignty talks about the rights of farmers to be proclaimed in food production and distribution. It advocates about participation in the formulation of food policy; choice of occupation related to food production and distribution; choice of agricultural land, labor, seed, technology, tools and to remain free from adverse impact of globalization.( The Right to Food and Food Sovereignty Act, Nepal, 2075 (2018)

### Research Gap

After the promulgation of food sovereignty act 2075 (2018) various studies have been conducted over food security. Sometimes the terms food security and food sovereignty are miss understood as synonyms. While directing the food security efforts by the government the food sovereignty principals are abandoned. Several research works have been carried out on food security but the topic of food sovereignty is still grey, hence this research aims to find out the working of food sovereignty principles on real ground in Nepal.

### Data Analysis and Presentation

To examine the working of food sovereignty promulgation it becomes important to discuss the various aspects of food sovereignty perspectives under six pillars with relevant facts and figures.

**Focus on Food For people:** provision of sufficient and nutritious food to the people of country has been considered as the first pillar of food sovereignty principal.

**Demand and Supply Situation of Rice (principal crop) in Nepal:** Rice is the principal crop of Nepal and off course it is the staple food for entire nation. The following table shows the demand supply situation of rice.

Table 1.1

Year	Supply (000tons)		Demand (000tons)		Deficit (% of supply)
	Pessimist Situation	Optimist Situation	pessimist Situation	Optimist Situation	
2010	2,691	2,712	3,851	3,846	-43.1
2015	2,645	2,838	4,276	4,267	-61.7
2020	2,600	3,238	4,671	4,778	-79.7
2025	2,556	2,653	5,002	5,245	-95.7
2030	2,512	4,085	5,364	5,784	-113.5

Source: Sanjay k. Prasad, Hemant pullabhotla, A.Ganesh Kumar, 2011, Supply and

### Demand for Cereals in Nepal (2010-2030)

Table 1.1 shows the aggravating pace of rice deficit in the country. Being short in supply by 43.1% in 2010, it has reached to 79.7% in 2020. Condition being given, it is expected rise by 113.55% in 2030. Shift of labor force to foreign countries and other sectors of comparative benefit, crisis of agricultural inputs and porous Indian border are the principal causes, found for such an alarming deficit situation. In adequacy of staple food for the people raise remarkable question over the principal of food sovereignty.

### Nutrition Status of People in Nepal

Along with the availability of food its nutritional value also remains as a pertinent question. Following table shows the dietary condition of Nepal as per food based dietary condition (FBDC).

#### Actual Food Consumption at Household's gm/day/AME (Adult Meal Requirement)

Food group	FBDC	Consumption	% Change
Starchy Staples	435	488	12.2
Vegetables	350	197	-43.7
Fruits	150	98	-34.7
Protein Food	120	102	-15.0
Dairy	250	271	8.4
Fats and oils	30	34	13.3
Total	1435	1192	-17.1

Source: World Bank, September 2021, Nepal Food System Transformations: Context, Pathways and Action

Table 1.2 shows that consumption of starchy staples, dairy products and fats and oils have increased by 12.2%, 8.4% and 13.3% respectively where as the consumption main nutrients as vegetables, fruits and protein remains at deficit by 43.7%, 34.7% and 15% respectively. Total deficit of 17.1% as per food based dietary guidelines prevails among common people in Nepal. Poor nutrition status brings up various health hazards and life expectancy. Further it questions over the prospect of having nutritive food under food sovereignty.

### Value to Food Providers

Small scale farmers and land less farmers are the prime concern for being valued in food production system under the principal of food sovereignty. Such marginalized farmers are the back bone of food production system therefore they should be valued. Cooperatives operating in the country are meant for value recognition of such farmers.



Cooperative Facts	Number	Rs. In billions
Total no of cooperatives	29,887	-
Total no of members	7,307,462	-
Female members	56% (4,092,178)	-
Total share capital	-	94.10
Saving mobilization	-	477.96
Total loan investment	-	426.26
Direct employment	-	88,309.0

Source: Ministry of Land Management, Cooperative and Poverty Reduction, Kathmandu, 2018, Cooperative Statistics

As per data surveyed from July to October 2018, there are 29,887 cooperatives under operation throughout the nation. Total number of members enrolled in those cooperative is 7,307,462 and out of them 56% (4,092,178) are females. The number of female enrolled exceeds by 12% over male. Total share capital is Rs 94.10 billion, total collection is Rs 477.96 million and loan disbursement is Rs 426.26 billion. In addition to it cooperatives have provided direct employment to 883,009 people. Such a huge network of cooperatives extended throughout the country raises the voice of people residing at the common ground and will provide strong support to food sovereignty principal.

### **Localize Food system**

The third pillar of food sovereignty principal talks about localizing food system that aims to minimize the influence of corporate houses and multinational companies. The object talks about subsidy to farmers and to minimize middle man involvement who take away major share of value added in food production chain. Further it questions about loan assistance, trend of agricultural input use and minimum support price trend.

### **Subsidy in Fertilizer**

Chemical fertilizer crisis is found as the major agricultural input crisis in Nepal. There is yearly demand 800,000 M.T. of chemical fertilizer out of which only 50%. is supplied throughout the country and still around 12% is unsubsidized.

Following table gives us the trend of use and subsidy given by the govt. on chemical fertilizer



Fertilizer Import and Subsidy in Nepal

Fiscal year	Total import(M.T.)	Subsidized fertilizer import (M.T.)	Subsidized fertilizer out of total import (%)
2015-16	329991.95	287429.95	87.10
2016-17	340342.00	307771.25	90.43
2017-18	385500.89	334999.65	86.90
2018-19	343020.60	320000	93.29
2019-20	425554.88	352367.43	82.80
2020-21	4514354.10	402201.8	89.09
Average	379310.74	334128.3467	88.27

Source: Shree Prasad Bista, Sabina Devkota and Nabin Rawal , April, 2023, Proceedings of the National Symposium on Major Agricultural Inputs Subsidy Mechanism in Nepal From perspective of assistance provided to the farmers from government side we can analyze from the table that on an average of 334128.3467 M.T. accounting to be 88.27% of the total import of 379310.74 M.T. of fertilizes is subsidized. However full subsidy by percent is the need of the day unless compost or organic fertilizer replaces the chemical one as per prescribed under food security principal.

**Presence of Middle Person**

The presence of middle man in agricultural sector of Nepal is another bottle neck to strengthen the financial condition of farmers which is necessary condition for food sovereignty practice.

Following table highlights the influence of middle men in the agricultural sector of Nepal.

Commodity	% of value added by middle man
Fish	32-35%
Goat meat	102.11%
Banana (fruit)	64%
Apple (jumla)	UP TO 400%
O) range (Parbat)	UP TO @00%
Vegetables	UP TP 125%
Milk (DDC)	Nonminal

**Source:** Manish Jung Pulami, Role of Middle Persons in Enterprise Value Chain, Dayitwa Public Policy Fellow 2020, Nepal Planning Commission.

Table 3.2 shows remarkable influence of middle persons in agricultural output marketing chain. These middle persons engulf huge share of profit. For fish, goat meat, banana, apple (jumla), orange (parbat) and vegetable their value added is 32-35%, 102.11%, 64%, 400%, 200% and 125% respectively. In milk it is nominal because of the direct intervention of government through D.D.C.

### Loan Disbursement to Agricultural Sector

As in manufacturing sector and other productive sectors, the need of loan in agricultural sector is also very important. Following table gives us the proportion of loan disbursed towards agriculture out of total loan with specification.

Agricultural sub sector	% of total loan
Agriculture and forestry	4.23
Fishery related	0.10
Agriculture related machines and tools	0.07
Fertilizers	0.12
Seeds	0.01
Animal and poultry feed	0.24
Agro product storage	0.13
Processing of tea, coffee ginger and fruits	2.24
Total	7.13

Source: Commercial Agriculture for Small Holders and Agro- Business (CASA) Team, April 2020, , Composition of Loan in Vegetable Sector Strategy- Nepal NRB-Unpublished Data

The above table represents a gloomy facet of Nepalese financial system towards agricultural sector. Except for agriculture and forestry and that for processing of tea, coffee, ginger and fruit processing standing at 4.23% and 2,24% respectively, the loan assistance remains below 0.25% for fishery, production of agricultural tools, fertilizers, seeds, animal and poultry feed, and agro product storage . The total lone disbursement stands merely at 7.13% as a proportion of total loan disbursement, is no way going to support farmers for being self sustained as per food sovereignty principal.

**Agricultural Input use Trend**

Trend of the use of various agricultural inputs give us an insight to understand the direction and magnitude of agricultural practices. Following table compares the status of use of agricultural inputs in last ten years from 2011/12 to 2021/22.

Particulars	2011/12	2021/22
Use of hybrid seeds	5.4%	16.5%
Number of live stock and poultry	353.8 thousand	3405 thousand
No of cattle in agricultural holding	6330 thousand	4559 thousand
Permanent workers employed in Agriculture	76, 977	74,591
Agricultural loan (% of total holdings)	22%	12%
Insurance coverage (% of all holdings on agricultural activities)	-	4%
Agricultural households ( % of total households)	71%	62%

Source: Nepal Sample Census of Agriculture-2021-22

Above table suggests that the use of hybrid seeds has significantly from 5.4% in 2011/12 to 16.5% in 2021/22 for the quest to produce more. Such an increase in the use of hybrid seeds is however against the principle of food sovereignty that talks to conserve local seeds. Increase in the number of cattle from 353.8 thousand to 4559 thousand somehow for more than ten folds shows the enhancement in income propensity of farmers that will make them financially sound in accordance of food sovereignty principal. Number of cattle in agricultural holdings has decreased to 4559 thousand from 6430 thousand signifies increase in the use of modern equipments like tractors and power tillers to increase productivity and rational use of such equipments however will support food sovereignty principal. Decrease in the number of permanent worker from 76,977 to 74,591 during same time period indicates the shift of workers towards foreign and other better avenues of income which will jeopardize the food sovereignty principal that needs more number of workers to practice and conserve traditional farm practices. Significant drop in the proportion of loan to agricultural land holdings out of total agricultural land holdings from 22% to 12% shows the lack of attentiveness of concerned authorities to strengthen financial status of farmers. Such kind of negligence will make force full shift of farmers to other sectors impairing the food sovereignty efforts. Mere coverage of insurance by negligible 4% again creates great uncertainty among farmers and they quit farming as proportion of agricultural households out of total households have decreased from 71% to 62% during same time period.

### Minimum Support Price Situation

Farmers face paradox of producing more of their farm product if left alone to face market forces. In case of rich supply of the farm products they are offered lower prices and bear loss. Hence minimum support price declaration from the government becomes inevitable for their beneficial survival.

The following table gives information about minimum price support situation in Nepal.

Agricultural product	Price/unit	2020/21	2021/22	2022/23	2023/24
Sugar cane	Rs./ quintal	544	590	610	635
Coarse paddy	Rs./ quintal	2735	2752	2967	3198
Medium paddy	Rs./ quintal	2995	2902	3129	3362
wheat	Rs./ quintal	3111	3165	3351	3650

Source: Economic Survey 2023-24

Above table suggests that Government has declared minimum support price for sugarcane as cash crop and on paddy and wheat as staple crop. The increasing price declaration trend in consecutive years from 2020/21 to 2023/24 makes favorable financial situation for the farmers to retain in agriculture. Such a support is in favor of food sovereignty principal.

### Puts Control Locally

The fourth pillar of food sovereignty focuses over ownership of local people over pasture lands, agricultural land, irrigation, seed, fishery and live stock etc.

### Land Owner Ship

land ownership situation is very crucial in Nepal. Real farmers are either landless or left with very small pieces of farm land which are very difficult to harvest.

Land holding (in ha.)	Number of farm holding
Total number of farm holding	4,130,789
Holdings with land (at least 0.1 ha.)	3,999,285
Holdings without land ( with one large animal or five small animals and twenty poultry)	131,504

Source: National Sample Census of Agriculture – Nepal 2012/22

Above table suggests that total no of farm holdings in Nepal are 4,130,789 that that comprises 3,999,285 holdings with land and remaining 131,504 holdings are land less. Such landless farmer’s households rely on one large animal or on five small animals with twenty poultry as an alternate. Such a poor access of farmers over agricultural land is against food sovereignty principal.

### Diminishing Wet and Dry Land Area

Agricultural farming depends precisely irrigation facility. Wet land refers to the agricultural land with irrigation facility and dry land refers to the agricultural land with no irrigation. Following table suggests the status of dry and wet land area in the country.

Type of land	Year (Area in 000’ha.)		% decline
	2011/12	2021/22	
Wet land Area	1584.2	1430.0	9.7%
Dry Land Area	941.4	788.4	16.3%

Source: National Sample Census of Agriculture – Nepal 2012/22

Above table suggests that wet land area and dry land area both have drastically decreased by 9.7% and 16.3% respectively during 2011/12-2021/22 in ten years. Such a decrease in agricultural land is because of the use of agricultural land for real estate business and other land pull factors. Decrease in entire agricultural land is a major setback in due course of food sovereignty.

### Land Fragmentation

Fragmented agricultural land poses various problems related to agricultural production and productivity. Extensive agricultural practices could not be practiced under fragmented farm conditions.

year	No of parcels(000’s)	Average number of parcels/holding	Average parcel size in ha.
1981/82	9516.4	4.4 units	N/A
2011/12	12096.4	3.2 units	0.21ha.
2021/22	11583.9	2.8 units	0.19ha.

Source: National Sample Census of Agriculture – Nepal 2012/22

Above table suggests that number of parcels (small pieces of land ) have significantly increased from 9516.4 thousand in 1981/82 to 12096.4 thousand in 2011/12 . With such increase in the number of parcels the average number of parcel per holding has also decreased to 3.2 units from 4.4 units. The average farm parcel size is 0.21 ha. Again after ten year in 2021/22 the number of parcels as declined to 11583.9 thousand because of various agricultural land pull factors though the average number of parcel per holding has decreased to 2.8 units and the average parcel size has also diminished 0.19 ha. Splitting of families causes the farm size to diminish and such fragmented pieces of land do not support the principle of food sovereignty to practice extensive cultivation for better yield.

### **Building Knowledge and Skills**

The fifth pillar of food sovereignty principal is building knowledge and skills that focuses over indigenous farming practices and to follow various skills that support nature conservation aspect. Precisely it talks about organic farm practices, which inevitably need reduction in the use of toxic pesticides in Farming.

### **Trend of the Use of Pesticides**

As per food sovereignty principal organic farming means farmers must prove that no chemical fertilizer and pesticides are used for at least three consecutive years. Following table gives the trend of use of pesticides in last twenty years.

Year	Use of Pesticides ( in tones)
2001-2002	146
2003-2004	177
2005-2006	154
2007-2008	132
2009-2010	356
2011-2012	335
2013-2014	410,
2015-2016	550
2017-2018	635
2019-2020	681

Source: Shushil Nyaupane, December, 2021, Use of Insecticides in Nepal and its Impact and Alternatives of Insecticides for Nepalese Farmers

Above table shows the trend of use of pesticides at the interval of every two for last twenty years from 2001 to 2020. Use of pesticides has increased by more than 400%. Such a massive increase in the use of pesticides is impairing the health of farmers and consumers and the fact does not cooperate with the principle of food sovereignty.

### Crop Wise Use of Pesticides

Crop wise use of pesticides gives us an idea to enquire about the principal cause of the aggravating use of pesticides by the Nepalese farmers.

Following table shows the crop wise use of pesticides intensity.

Crops	Pesticides use (active ingredients gm./ha)
Tea	2100
Cotton	2560
Vegetable	1605
Cereal crops	46
Cash crops	186
Pulses	50
Fruits	29

Source: Shushil Nyaupane, December, 2021, Use of Insecticides in Nepal and its Impact and Alternatives of Insecticides for Nepalese Farmers

Above table suggests that farmers use more pesticides in such crops that have more provision of market and profit margin. For tea, cotton, vegetables and other cash crops it stands for 2100, 2560, 1605, 186 a.i. gm./ha. respectively as they fetch better market and profit. Contrary to that such intensity is mild for cereal crops, pulses and fruits and it remains 46, 50 and 29 a.i. gm./ha. Such an attraction of farmers towards merchandise agricultural product at whatever cost over human health and nature does not hold good with food sovereignty principle.

### Region Wise Use of pesticides

It is assumed Terai and places nearby market make more use of pesticides and rural and hilly areas use lesser pesticides and still believe in natural way of farming.



Following table depicts the reason wise intensity of use of pesticides in Nepal.

Region	Pesticides use (active ingredients gm./ha)
High hill	85
Hill	315
Terai	995
Valley	470

Source: Shushil Nyaupane, December, 2021, Use of Insecticides in Nepal and its Impact and Alternatives of Insecticides for Nepalese Farmers

Evidently it is clear that the places with more market prospective use heavy pesticides doses than those in hilly and remote areas. Such intensity is highest in terai and stands at 995 a.i. gm./ha. and gradually diminishes to 85, 315 and 470 a.i. gm./ha. for high hills, hills and Kathmandu valley respectively. This profit making venture would gradually be spreading throughout the country if special initiatives are not delegated to the farmers working in organic farming line.

### Work with Nature

Sixth pillar of food sovereignty is work with nature that primarily focuses on nature friendly approach of farming. It promotes such harvesting methods that support eco system to reduce the consequences of climate change. In the initiation of N.G.O.'s and I.N.G.O.'s eco friendly and climate resilient practices are observed in western part of Nepal and their efficacy is analyzed here.

Following table represents different eco friendly activity matrix

Activity	place	Comparative production analysis	Yield (total out turn)
River bed farming of cucurbitaceous crops	Kailali	More production with less harm of pesticides	More than hybrid
Tharu Alu cultivation	Kailali	More production with less harm of pesticides and chemical fertilizers	More than hybrid
Jhol Mal preparation	Achham	Less cost and more effective	-
Kitchen garden	Doti	More production with less harm of pesticides	More than hybrid
Community seed bank	Banke	-	-
Local Bio char (super heated charcoal fertilizer)	Doti	Less cost More production	More than hybrid

Contd.

Activity	Benefits and cost ratio	Environment friendly analysis	Sustainability analysis	Farmer's analysis (participatory)
River bed farming of cucurbitaceous crops	More benefit with lesser cost	Eco friendly and healthy	-	Low cost of cultivation
Tharu alu cultivation	More benefit with lesser cost	Eco friendly and healthy	-	Low cost of cultivation
Jhol mal preparation	More benefit with lesser cost	Eco friendly and healthy	Soil health improved	Healthy cultivation practice
Kitchen garden	More benefit with lesser cost	Eco friendly and healthy	-	Lower cost higher benefit
Community seed bank	More benefit with lesser cost	Eco friendly and healthy	-	Promotion of local seeds
Local Bio char (super heated charcoal fertilizer)	More benefit with lesser cost	Eco friendly and healthy	Soil health improved	Higher production and better taste

Source: Lutheran World Federation (LWF) Nepal-2017, A Field Study Report on Identification of Indigenous, Eco Friendly and Climate Resilient Agricultural policies in Ne

The matrix of eco friendly farming practice mentioned above describes describe various climate resilient activities such as River bed farming of cucurbitaceous crops, Tharu alu cultivation, Jhol mal preparation, Kitchen garden, Community seed bank and Local Bio char (super heated charcoal fertilizer) in various districts of western Nepal. On the ground of comparative production analysis, yield (total out turn), cost benefit ratio analysis, Environment friendly analysis, farming sustainability analysis and farmer's participatory analysis, the outcomes are surprisingly positive indicating that farming as per food sovereignty principal could be made efficient.

### **Facts of Agriculture Census Nepal**

Comparative study of the facts of agricultural census would be helpful to assess the implementation of food sovereignty aspect in the country.

Facts	2011-12	2021-22
Total area of agricultural land	2.52 million ha.	2.22 million ha.
No. of families involved in farming	3.36 million	4.13million
Female headed house hold	19%	32.4%
Average size of farm house holds	5.4 persons	4.7 persons
Average size of land holding	0.68 ha.	0.55ha.
Vegetable cultivation	84,400 ha.	107,700 ha.
Loan received from banks and financial institutions	22%	12%
Use of hybrid seeds	5.4%	16.5%

Source: The HRM Report, 29, 2023, Sept Significant Shifts in Nepal's Agriculture Land Escape

The table suggests that total area of agricultural land has decreased by .30 million of ha. in 10 years of duration because of agricultural land conversion for housing settlement and other natural causes like flood etc. Depletion in agricultural land area will obviously raise question over food sovereignty.

Number of families involved in farming have increased by 0.77 millions in 10 years of time shows the tendency of splitting of families from join to nuclear one and such split will certainly be raising the quest of producing more rather than to aspire the food sovereignty aspect like organic farming and all.

Number of female headed households have significantly by 13.4% in given time period holds good with the food sovereignty aspect that ownership of women must be encouraged but the principal reason of such a shift in ownership is due to the migration of male head to foreign countries for employment.

Average size of farm households have also decreased significantly to 4.7 persons from 5.4 persons again raises question over the food sovereignty practices that need comparatively bigger work force to follow traditional kind of farm practice in order to anticipate traditional knowledge.

Average size of land holding has also diminished to 0.55 ha. from 0.68 ha indicates the aggravating pace of land fragmentation and such a fragmentation obviously does not anticipate the food sovereignty issue as reclamation of bigger farm size is needed to for such endeavor.

Increase in vegetable cultivation land by 23,300 ha in the given time signifies the attraction of farmers toward cash crops for high profitability and in such a quest indiscriminant

use of fertilizers and pesticides is followed. Such toxic farm practices are against the principal of food sovereignty.

Provision of loan assistance to the farmers from banking and financial institutions have significantly decreased to 12% from 22% indicates a serious drawback against the principal of food sovereignty, which aims to provide financial assistance to the marginal farmers in priority.

Use of hybrid seeds in farming has also significantly increased from 5.4% to 16.5 % in the given time span shows that use and conservation of local varieties of seeds does not come under the priority of farmers. Hence, the principal of food sovereignty to conserve local variety of seeds is questioned again.

### **Major Findings of the Study**

Being examined in accordance of six pillars the enactment of the food sovereignty principal in the country surpasses through following conditions.

1. As per the first pillar, that focuses on food for people, there is a serious crisis in food supply and along with its nutritive value as per food based dietary condition.
2. As per the second pillar, which focuses on value to food providers, significant numbers of cooperatives operating in the country are expected to support food sovereignty principle.
3. As per the third pillar, that focuses on localizing food system procurement and subsidy over fertilizer both are lacking far behind the quantity and amount of expectation. Presence of middlemen is significantly large and helpless farmers are robbed out of their returns by many folds. Provision of loan, insurance and other agricultural inputs is marginal. Policy of minimum support price is also not much supporting as it is limited to only five crops.
4. As per the fourth pillar, that focuses on local ownership of agricultural resources marginal area of land holding, diminishing wet and dry land area, high rate of land fragmentation are found as prominent hurdles to enact food sovereignty principal.
5. As per the fifth pillar that focuses on building knowledge and skills, precisely for organic farming the picture is darker as the trend of use of pesticides is aggravating. Such use of pesticides is more practiced in cash crop farming for better profit earning. Reason wise also, the trend of such use ranks the highest in case of terai, which is agricultural bed of the country.

6. As per the sixth pillar, that focuses on work with nature, activities as river bed farming, tharu alu cultivation, Jhol mal preparation, kitchen gardening, community seed bank and use of local bio char are working well with positive outcomes. Such practices are supporting food sovereignty principle.
7. As per agricultural census facts, depletion in agricultural land splitting of families, abroad migration of male member of the family, decrease in the average number of family members in farm household, inclination towards cash crops, poor assistance of financial institutions and aggravating pace of use of pesticides etc. are major setbacks in working of food sovereignty principle on real grounds.

### **Conclusion and Recommendation**

In spite of the promulgation of the food sovereignty act 2017 in the constitution of Nepal Nothing significant has been achieved so far in this line. Government seems to be confined in food security assurance, irrespective of adopting food sovereignty principal. To strengthen food sovereignty measures, existence of sufficient number of cooperatives within the country could be game changer as they value real farm friendly farming practices show brighter facet. Landlessness, under nutrition, fragmentation of agricultural land, shift of labor forces, poor assistance of financial institution and insurance agencies, indiscriminant use of chemical fertilizer and pesticide, existence of middle men, diminishing stage of agricultural land because of land pull factors as real estate and others etc. are found as prominent bottle necks to enact food sovereignty principles on real grounds.

Following recommendation are prescribed, therefore, as possible way outs to overcome the hurdles of food sovereignty aspect.

1. Reformulation of land use act regulation is essential for proper land use governance in order to discourage land conversion attempts so that agricultural land does not diminish.
2. Establishment of strong and effective monitoring system to measure the effectiveness of cooperatives working in the line of food sovereignty.
3. Facility of agricultural loan, insurance and minimum support price declaration must be made effective as per money and more number of crops coverage.
4. Hazardous consequences of indiscriminant use of chemical fertilizers and pesticides over human health and nature must be made public and special and profitable initiatives must be declared for eco friendly and organic farm practices.

5. Agricultural loan, insurance and minimum price declaration policies are to be made effective and extensive with special consideration for those who follow food sovereignty principal.
6. Skill, training and initiatives for youth must be imparted in real terms from local provincial and federal government to retain youth of the nation in agriculture.
7. Landless and marginal land holding issue must be addressed through extensive farming under cooperatives.

### References

- Alison Hope Alkon and Teresa M.Mares, 2012, Food sovereignty in US food movements: Radical visions and neoliberal constraints,
- Amnesty international Nepal report April 3, 2019
- Autumn spanne and Elizabeth Maclenan, august 9, 2021, Tree hugger: Food sovereignty: Definition, Principles and importance
- Commercial Agriculture for small holders and Agro- business (CASA) Team, April 2020, Composition of Loan in vegetable sector strategy- Nepal NRB-Unpublished data
- Change for Children Learn & Teach Food Sovereignty Resources, annual report 2022-23, [www.changeforchildren.org](http://www.changeforchildren.org)
- Economic survey 2023-24
- Food synthesis report-Nyeleni, 2007, Six pillars of food sovereignty
- G.P. Gyanwali and P. Pradhan, 2022, Nepalese journal of development and rural studies.WFP Nepal, 2022 annual country report, 6<sup>th</sup> April 2023
- Jürgen Kraus and Heiko Thiele, july 13, 2015 Bangladesh: right to land and seed
- Kiran thampi, July 2023, Lesson learnt from social movements: farmers and food sovereignty in India, Approaches to Human Rights and Social Work
- Lassa, Jontan Anderias, March, 2021, The Rise of Food Sovereignty in Southeast Asia
- Lutheran World Federation (LWF) Nepal-2017, A Field Study Report on Identification of Indigenous, Eco Friendly and Climate Resilient Agricultural policies in Nepal.
- Manish Jung Pulami, 2020, Nepal planning commission, Role of middle persons in enterprise value chain,

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Ministry of Land Management, cooperative and poverty reduction, Kathmandu, 2018,  
Cooperatives Statistics

Nepal News RSS, Aug 17, 2022, 20:44, Kathmandu

Nepal Sample Census of Agriculture-2021-22

Puspa sharma and Carstern Daugbjerg, June 2020, The troubled path to food sovereignty in  
Nepal: Ambiguities in agricultural policy reform,

Sanjay k. Prasad, Hemant pullabhotla, A.Ganesh Kumar, 2011, Supply and Demand for  
cereals in Nepal (2010-2030)

Shree Prasad Bista, Sabina Devkota and Nabin Rawal , April, 2023, proceedings of the national  
symposium on major agricultural inputs subsidy mechanism in Nepal

Shushil Nyaupane, December, 2021, Use of Insecticides in Nepal and its Impact and  
Alternatives of Insecticides for Nepalese Farmers

The Declaration of Nyeleni, Selingue,,Mali Feb 23-27, 2007

The HRM, Report, Sept. 29, 2023, Report, Significant shifts in Nepal's Agriculture Land Escape

The Right to Food and Food Sovereignty Act, Nepal, 2075 (2018)

World Bank, September 2021, Nepal food system transformations: context, pathways and  
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