

Food Security Management: A Challenging Task in Nepal

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Realizing the importance of food security, World Food Conference in 1974 formed a committee on World Food Security so as to keep the world food situation under constant review and to recommend necessary actions in case of problems found in particular areas. In the World Food Summit held in 1996 many nations had reaffirmed the right of every one to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of every one to be free of hunger. In recent time the shortage of food supply and sharp rise of the food price has largely threatened the management of food security system in the world. In almost all the development plans of Nepal top priority has been accorded to ensure national food and nutritional security by alleviating poverty through increasing agricultural production and productivity. However, desired level of agricultural production and productivity has not been achieved and as a consequence it has been difficult to provide guarantee of food availability in the country, particularly in remote and hilly areas.

Introduction

Food comes first, because it is a basic need of every one. Every one has a right to have a food to lead a dignified life. Therefore, the government without hesitation should make concentrated efforts to meet increasing food demand of the people. It is obvious that food demand increases as the population increases. There is no doubt that food is known as a basket of edible commodities consisting of calories, protein, minerals and vitamins, the safe drinking water and basic sanitation is also included in the basket, which are basic essential commodities. Without these items the existence of human being is impossible on this planet.

Realizing the importance of food security, World Food Conference in 1974 has formed a committee on World Food Security so as to keep the world food situation under constant review and to recommend any action necessary in case of problems found in particular areas. In the World Food Summit held in 1996 many nations had reaffirmed the right of every one to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of every one to be free of hunger (Goel, 2004). In recent time the shortage of food supply and sharp rise of the food price has largely threatened the management of food security system in the world.

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The food security is conventionally defined as the balances of food supply and effective demand for food, mainly cereals. According to World Nutrition Congress (WNC) resolution - 1992, food security is identified with nutritional security and accessibility not only in terms of availability but concurrently with entitlement. Food security in Nepal has remained as serious problem, due to the lack of sufficient production, inefficient distribution and improper management of food procurement and storage.

In almost all the development plans of Nepal top priority has been accorded to ensure national food and nutritional security by alleviating poverty through increasing agricultural production and productivity. However, desired level of agricultural production and productivity has not been achieved and as a consequence it has been difficult to provide guarantee of food availability in the country particularly in remote and hilly areas. In an effort to increase agricultural production and productivity government has introduced and implemented Agriculture Perspective Plan (1996-2015) in order to introduce diversification and commercializing of agriculture sector. However, the pace of diversification and commercialization of agriculture sector is proceeding at snail's pace. (NPC, 2007/08-2009/010) in its Three Year Interim Plan has also set the objectives of providing food and nutrition security to people by increasing agriculture and livestock production and productivity.

Food Production in Nepal

The Tenth Plan (NPC, 2002-2007) has set the target of for increasing production and increasing availability of different essential commodities. This shows that the government is serious in increasing production and productivity of food crops in order to ensure food availability in the country.

Table 1 Agricultural Production in Tenth Plan

S.N	Agricultural Production	Unit	Year 2000/02	Expected Target of Tenth Plan	Achievements 2005/06
1.	Edible food grains	mt/ha	2.20	2.60	2.27
2.	Availability	per caput/yr	264	286	280
3.	Pulses production	mt/ha	0.79	0.90	0.80
4.	Oilseeds production	mt/ha	0.70	0.78	0.86
5.	Potato production	mt/ha	10.90	12.50	13.09
6.	Sugar availability	per/caput/yr	8.7	9.03	9.44
7.	Vegetable production	mt/ha	10.52	11.31	11.54
8.	Fruits Production	mt/ha	9.50	10.36	10.18
9.	Fish Production	mt/ha	35	49	46.75
10.	Meat availability	kg	199	260	227
11.	Milk availability	000lit	1159	1400	1351
12.	Egg availability	10 lacks	540	920	614

Source: NPC (2002-2007). The Tenth Plan, National Planning Commission, Kathmandu.

The production targets fixed in the Tenth Plan provides rosy picture which has created a ground for expecting prosperous future in field of food security.. There is no doubt that these targets indicate the good food security situation in the country. However, the plan has not been able to achieve set targets. It is widely accepted that food security can be ensured only if the country is able to increase the production of food crops.

To refer MOAC (1996-2006/07), production of cereal crops is rather erratic over the period of more than a decade as has been depicted in the table given below.

Table 2 Production of Cereal Crops in Nepal

(Production in MT)

Year	Production											
	Paddy		Maize		Millet		Wheat		Barley		Total	
	Prod	%	Prod	%	Prod	%	Prod	%	Prod	%	Prod	%
1996/1997	3710650	3.68	1316840	-1.06	289480	2.49	1071970	5.82	36690	0.00	6425630	2.86
1997/1998	3640860	-1.92	1367340	3.69	285120	-1.53	1030320	-3.80	37150	1.24	6360790	-1.02
1998/1999	3709770	1.89	1345910	-1.59	291370	2.18	1086470	5.17	31798	-14.40	6465318	1.62
1999/2000	4030100	8.63	1445450	6.89	295380	1.36	1183530	8.93	30817	-3.18	6985277	8.04
2000/2001	4216465	4.62	1484112	2.61	284813	-3.71	1157865	-2.22	30488	-1.18	7173743	2.63
2001/2002	4164687	-1.24	1510770	1.79	282570	-0.79	1258045	8.65	30790	0.98	7246862	1.01
2002/2003	4132500	-0.78	1569140	3.16	282860	0.10	1344192	6.87	31711	2.90	7360403	1.54
2003/2004	4455722	7.25	1819925	15.98	283378	0.18	1387191	3.10	28151	-12.65	7974367	8.34
2004/2005	3680838	-17.39	1716042	-5.70	289838	2.23	1442442	3.83	28293	0.50	7157453	-10.24
2005/2006	4209279	14.35	1734417	1.06	290936	0.38	1394126	-3.47	27786	-1.82	7656544	6.52
2006/2007	4289827	1.91	1590097	-8.32	282852	-2.96	1515139	8.68	29341	5.30	7707256	0.66

Source: MOAC (1996-2006/07). Statistical Information on Nepalese Agriculture, Ministry of Agriculture and Cooperative, Kathmandu.

The erratic production trend of cereal crops results in erratic food supply in the country. The increase in food production will certainly increase the availability of edible food in the country. Therefore, the sustainable supply of food totally depends on the production situation of cereal crops.

Table 3 Production of Cash Crops in Nepal

(Production in M T)

Year	Production					
	Oilseed		Potato		Sugarcane	
	Prod	%	Prod	%	Prod	%
1996/1997	119250	2.81	997400	11.02	1629300	3.06
1997/1998	110226	7.56	971680	-2.58	1762580	8.18
1998/1999	119731	8.62	1091218	11.95	1971646	11.86
1999/2000	122751	2.58	1182500	8.36	2103426	6.68
2000/2001	132331	-7.42	1313717	9.99	2211781	5.15
2001/2002	134950	1.94	1472757	10.80	2247990	1.63
2002/2003	124931	-8.02	1531315	3.82	2343054	4.22
2003/2004	135660	7.91	1643357	7.31	2305326	-1.60
2004/2005	141989	4.66	1738840	5.49	2376103	3.07
2005/2006	139322	-1.91	1943246	11.7	2462574	3.64
2006/2007	132865	-4.63	1974755	1.62	11790	-1.57

Source: MOAC (1996-2006/07). Information on Nepalese Agriculture: Ministry of Agriculture and Cooperative, Kathmandu.

Potato, which is a basic food crop in mountains as well as hill belt, plays vital role for food security in the country. Potato which has offered multiple uses in the kitchen has remained one of the basic items for food security. The production trend of potato shows increasing trend in the last ten years (Table3).

Table 4 Production of Pulse Crops in Nepal

(Production in M T)

Year	Production	
1996/1997	223000	3.79
1997/1998	211250	-5.57
1998/1999	228840	7.69
1999/2000	237325	3.70
2000/2001	243243	2.49
2001/2002	250400	2.94
2002/2003	256900	2.59
2003/2004	265360	3.99
2004/2005	271312	2.24
2005/2006	267449	-1.44
2006/2007	274375	2.59

Source: MOAC (1996-2006/07). Statistical Information on Nepalese Agriculture: Ministry of Agriculture and Cooperative, Kathmandu

In the country pulse crops have been cultivated widely because it is widely consumed through out the country. The pulse crops show increasing trend since 1998/99 to 2000/06. The increasing trend of pulse crops offers of hope for strengthening the food security in the country. However, it is to be noted that pulse production in mountain is far below the requirement. This should be addressed and efforts should be made towards substitute crops.

Table 5 Edible Cereal Food grain Production and Requirement in Nepal 1996/97-2005/2006

(Quantity in Mt.)

Crops	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Rice P	2002747	2035725	2074193	2259393	2356646	2294205	2271914	2455971	2358540	2314065
Maize P	894779	940767	920094	1007178	1001478	999831	1059751	1082455	1186840	1097612
Wheat P	827438	806849	855647	934559	914885	1008827	1069257	1105087	1151282	1211445
Millet P	236982	233764	238968	242331	231915	231714	231931	232373	237778	238651
Barley P	10641	10244	8710	8478	8255	8472	8613	8485	8113	7667
Total P	3972587	4027348	4097612	4451939	4513179	4543049	4641466	4884371	4942553	4869440
R	4079135	4178077	4279491	4383443	4430128	4463027	4565820	4671344	4779710	4890993
B	-106548	-150729	-181879	68496	83051	80022	75646	213027	162843	-21553

Note : P = Production in edible form
R = Requirement
B = Balance

Source: MOAC (1996-2006/07). Statistical Information on Nepalese Agriculture, Ministry of Agriculture and Cooperative, Kathmandu.

Food Balance Situation

In the country the total edible food production exhibits increasing trend during the period from 1996/97 to 2005/06. Similarly the requirement of edible cereal food production also shows the increasing trend during the same period. However, the total edible food had fallen short of total requirement during 1996/97 to 1998/99. But in the duration between 1999/2000 and 2004/05 edible total food production had increased and food situation had turned into surplus situation. However, it seems that production could not keep increasing trend and as a result the total edible food production could not meet the requirement of the country in 2005/06 and the food situation of the country painfully turned into food deficit situation (DAMDD, 1996-2006/07).

Table 6 Belt Wise Food Availability and Requirement of Cereals 2003/04

(Quantity in Mt.)

District	Population	Rice	Wheat	Maize	Millet	Barley	Total Edible Production	Requirement	Surplus/Deficit
E. MOUNTAIN	413258	22620	7404	46983	10692	296	87995	78931	9064
C. MOUNTAIN	577941	17735	17627	44203	24203	356	104124	110386	-6262
W. MOUNTAIN	26075	0	1190	563	0	225	1978	4981	-3003
MW. MOUNTAIN	322660	4657	11376	7084	6501	2239	31857	61628	-29771
FW. MOUNTAIN	415847	11301	19296	8549	4438	1131	44715	79426	-34711
MOUNTAIN	1755781	56313	56893	107382	45834	4247	270669	335352	-64683
E. HILLS	1703707	119689	38729	173945	41707	282	374352	342445	31907
C. HILLS	3806238	163451	92358	227354	29871	530	513564	765052	-251488
W. HILLS	2896087	163700	93994	272919	89467	1004	621084	582113	38971
MW. HILLS	1544055	49783	95663	127612	12131	1675	286864	310355	-23491
FW. HILLS	835726	30080	37881	11559	4233	405	84158	167980	-83822
HILLS	10785813	526703	358625	813389	77409	3896	1880022	2167945	-287923
E. TERAJ	3485454	674077	147354	36200	5416	14	863061	630867	232194
C. TERAJ	4200553	569493	266975	49525	2794	180	888967	760302	128665
W. TERAJ	1876084	295381	132947	10045	537	71	438981	339571	99410
MW. TERAJ	1320946	175925	76755	54263	89	24	307056	239091	67965
FW. TERAJ	1095117	158079	65538	11651	294	53	235615	198216	37399
TERAJ	11978154	872955	689569	161684	9130	342	2733680	2168047	565633
NEPAL	245197482	2455971	1105087	1082455	232373	8485	4884371	4671344	213027

Source: DAMDD (1996-2006/07). Agricultural Marketing Information Bulletin, Department of Agriculture Marketing Development Directorate, Kathmandu

Belt wise food availability and requirement presents a mix picture. The requirement of food in mountain belts (CDR, WDR, Mid WDR, and FarWDR mountain belts) have required higher than the production of these belts. As a result mountain belts of all development regions were fallen into food deficit belts except the mountain belt of EDR. The food availability situation in the mountain belts indicates that these belts are chronic food shortages belts.

The edible food production and volume of food requirement of the hilly belt of all development regions present different picture than that of mountain region. In hilly the belt of (FWDR) the requirement of edible food grain has been higher than requirement. But the hilly belt of FWDR is a food deficit belt which demands special attention for maintaining sound food security.

The edible food production in Terai, which is known as Nepal's store of food grain, is always in surplus. In 2003/04 it had produced more volume of food grains than produced in both mountains and hill belts of all the development regions. The Terai has produced surplus food grain, which is supplied in other food deficit areas of the country.

Table 7 Food Balance Sheet (2004/05)

Belts	Population	Rice	Wheat	Maize	Millet	Barely	Total	Regd	Balance
E. Mount	418020	28284	8436	48007	12840	159	97726	79842	17884
C. Mount	487450	21673	22973	48659	21483	185	114973	112203	2770
W. Mount	26735	0	1236	596	0	300	2132	5106	-2974
MW Mount	328248	6889	11216	7169	6844	2240	34358	62695	-28337
FW Mount	423285	14220	22130	8902	5699	773	50624	80847	-30223
Mountain	1683738	71066	65991	113333	45766	3657	299813	340693	-40880
E. Hills	1728655	113701	42759	189337	46253	410	392460	347460	45000
C. Hills	3918006	161679	98114	233863	30970	465	525091	787520	-262429
W. Hills	2938409	179080	96060	329906	88615	1074	694735	590620	104115
MW Hills	1573413	58772	97703	139507	12155	1596	369733	316256	-6523
FW Hills	850910	36276	42043	17919	4979	595	101812	171033	-69221
Hills	11009393	549508	376679	910532	182972	4140	2023831	2212889	-189058
E. Terai	5709401	831712	208506	279522	63393	572	1383705	107255	311550
C. Terai	8717478	702458	388826	321256	5625	817	1469610	1680199	-210589
W. Terai	4892673	425669	229154	341029	89151	1444	1086447	944608	141839
MW Terai	3270413	149960	184063	201510	19109	3860	608502	624884	-16382
FW Terai	241226	198747	140733	43523	9872	1420	394289	457864	-63575
Terai	24992191	2358540	1151287	1186840	237778	8113	4942553	4779710	162843

Source: MOAC (1996-2006/07). Statistical Information on Nepalese Agriculture, Ministry of Agriculture and Cooperative, Kathmandu & DAMDD (2003/2004). Agricultural Marketing Information Bulletin, Department of Agriculture Marketing Development Directorate, Kathmandu

Food in security in mountain belts has been all the time posing threat and leading towards severe hunger and poverty. In 2005/06 the edible food requirement in the mountain belts of all development regions was 340693 MT, but the total production was only 299813 MT. As a result the belt has witnessed a deficit of 40880 MT. Similarly, the requirement of edible food in 2005/06 was 2292889 MT, but the production of edible food was only 2023831 MT. The total production of edible food was not sufficient by 189058 mt. As a consequence the hilly belt was also found deficit in the same year. However, the Terai belt has remained food surplus belt, which has helped to meet the food requirement in mountain as well hilly belts.

Table 8 BELT WISE FOOD AVAILABILITY AND REQUIREMENT OF CEREALS 2005/2006

(Final Estimates*) in MT.

District	Population	Rice	Wheat	Maize	Millet	Barley	Total Edible Production	Requirement Deficit	Surplus/
E. MOUNTAIN	422839	25129	8403	48463	12571	153	94719	80763	13956
C. MOUNTAIN	597116	21178	22371	43969	20652	184	108354	114049	-5695
W. MOUNTAIN	27430	0	1347	603	0	210	2160	5239	-3079
MW. MOUNTAIN	333936	5135	7754	8819	6867	2125	30700	63782	-33082
FW. MOUNTAIN	430856	12292	17969	8092	4438	957	43748	82294	-38546
MOUNTAIN	1812177	63734	57844	109945	44528	3629	279680	346127	-66447
E. HILLS	1754068	113750	39411	199385	45368	364	398278	352567	45711
C. HILLS	4033743	151614	97999	224301	31958	467	506339	810782	-304443
W. HILLS	2981434	179532	93429	344997	90067	1013	709038	599269	109769
MW. HILLS	1603344	58944	94792	132720	12028	1545	300029	322272	-22243
FW. HILLS	866375	29027	34408	20975	4780	324	89514	174142	-84628
HILLS	11238964	532867	360039	922379	184201	3713	2003199	2259032	-255833
E. TERAJ	3641789	646450	135972	52475	5214	30	840141	659164	180977
C. TERAJ	4426470	501323	256740	35582	3672	164	797481	801191	-3710
W. TERAJ	1980391	250618	124547	13272	533	70	389040	358451	30589
MW. TERAJ	1397643	171086	81655	63461	110	15	316327	252973	63354
FW. TERAJ	1182626	147987	80815	14330	393	46	243571	214055	29516
TERAJ	12628919	1717464	679729	179120	9922	325	2586560	2285834	300726

NEPAL 25680060 2314065 1097612 1211445 238651 7667 4869440 4890993 -21553

Notes: *i. The estimates area drawn from MOAC; and

ii. Changes in the feed requirement for livestock are also considered.

In 2005/06, all mountain belts except the mountain belt of Eastern Development Region were recorded as food deficit belts. In the same year, the total edible food production in mountain belts was 279689 MT as against the requirement of 346127 MT, the requirement was 66447 MT higher than the production. It shows the fact that this belt was food deficit in 2005/06. Despite the terai found producing food surplus, the total food requirement in the country was not sufficient to meet the country's total requirement.

Efforts towards Food Security

In order to meet the total requirement of food of the country, Nepal Food Corporation (NFC) has been purchasing food grains in internal as well external markets. However, NFC has not able to supply the required volume of food to the hungry people of mountain and hilly belts

NFC has been distributing rice, wheat maize and other commodities in the food deficit areas through its districts level offices. NFC is distributing food as per the quota fixed by government. However, it is not able to keep sufficient food stock in remote food deficit areas of the country in order to improve food security there.

The importance of food security as a priority objective of the country was reiterated in previous development plans as well as in the Three Year Interim Plan. However, the progress in village and district level of the mountain belt and in some districts of hilly belts has seen quite low.

In recent years several projects have been implemented in the country focusing for improving the food security in a bid to improving food security. Nepal Food Corporation has been storing food grain in food deficit districts by purchasing food from surplus districts. In addition FAO has also made efforts by initiating food for work program for improving the food security in food deficit districts/ areas. However, food security in the mountains and hilly belts have still remained at alarming stage. This calls for more and efficient efforts for increasing food production and improving distribution system for improving food security in the country particularly in mountain and hilly belts.

Suggestions

1. Due to the differences in topography, the country's land mass is divided into several agro ecological zones. These zones provide opportunities to produce different agricultural commodities. Therefore, crop diversification and commercialization in agriculture should be accelerated on the basis of potentiality of agro-ecological zones for increasing agriculture production in order to support food security system in the country. In order to achieve the increased food production, technology, extension system, production, price, market technologies and development of infrastructure should be promoted on the basis of agro-ecological zones.
2. People of the food deficit areas fall under low income brackets. The purchasing

power of these people is extremely low due to the low income. They are not able to purchase food available in the markets. Therefore, it is imperative to increase income of the people by creating income generating activities in the food deficit areas.

3. Food for work programme should be implemented massively in the food deficit areas so that poor people, who could not purchase food, could get food by working under this programme.
4. An efficient marketing network should be developed, so that the grain from the surplus areas could flow easily and efficiently to deficit areas at lower marketing cost.
5. Regular assessment of food supply and availability in mountain and hilly districts should be corrected out by concerning authority in order to maintain good food security in these areas.
6. Nepal Food Corporation should keep sufficient food stocks in the mountain as well as remote hilly districts to save people from food shortage and hunger.
7. The concerned authorities should pay sufficient attention to control and stop the practices of fermenting food for making alcohol, which is widely prevalent in mountain and remote areas.
8. The concerned authorities should also enforce strict measures against stock piling of food grains by the traders in food deficit situation and areas with a view to create artificial scarcity and charge higher price.

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