

Proceedings of the National Review Seminar on

# Food Crisis Response Program

March 30, 2014, Indreni Complex  
New Baneshwor, Kathmandu, Nepal



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## FOREWORD

Agriculture is the livelihood of majority of the Nepalese people and this is consistently moving ahead independently throughout the country. Improved agriculture leading to better household food security has been identified as a fundamental determinant of processes that lead to food security.

The intent of the workshop was to share, understand and assimilate impact of food crisis response program and to provide technical assistance to support the review and analysis of proposed food and nutrition security program under the MoAD. The Workshop covered a broad theme, examining status of food security condition and uses improve seed from the field level to the policy approaches.

In this proceeding, efforts have been made to reflect above. I trust this would be an important compilation to benefit the readers in one or other ways.

I am very much thankful to the resource persons for their effective paper presentations and facilitation at discussion. My gratitude and thanks goes to secretary of MoAD, Joint secretaries, Acting Director General of DoA and all participants who directly or indirectly contributed to this workshop. Meanwhile I would offer special thanks to editorial team for his valuable work to prepare and manage the workshop to have done including important work of editing and organizing the proceeding.

**Laxman Prasad Paudel**  
Project Coordinator

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## EDITORIAL

The “PROCEEDINGS OF NATIONAL REVIEW SEMINAR ON FOOD CRISIS RESPONSE PROGRAM” has been prepared as an outcome of the workshop. The workshop on food crisis response program was held at Indreni complex New baneshwor, Kathamandu on 30 march, 2014. It was a milestone in agricultural development. About 150 personnel including distinguished governmental officials, scientists, and researchers from various governmental and nongovernmental institutions of Agriculture such as ministry of Agriculture Development (MoAD), Department of Agriculture (DoA), Nepal Agriculture Research Council (NARC), Representative from ministry of finance (MoF), Representative from National Planning Commission (NPC), Representative from National Vigilance Centre (NVC) etc. were attended the workshop. The workshop has enriched better understanding among participants in order to review food crisis response program and implement future agriculture program more efficiently and effectively.

The workshop was organized for a day in four sessions; Inaugural Session, technical Paper presentation Session, Discussion and Closing Session. The theme paper session consists of 4 technical papers including one remarks paper on “Food Security: Challenges and Management”. The participants were involved in the discussion. The outcomes of the discussion were presented in plenary session, and finally updated by incorporating the comments and suggestions made by plenary.

There are all together 5 chapters in the proceeding. The chapter I deals with background chapter II deals with inaugural session, chapter III deals with paper presentation session, chapter IV deals with discussion session and chapter V deals with closing remarks respectively.

The first paper attempts to provide an overview of the agricultural programs implemented in past under the food crisis response program of irrigation and water resources management project, department of agriculture.

The second paper consists of different activities conducted under food crisis response program under the Nepal agriculture research council. Total seed production and other physical support were included in this paper.

The third paper has tried to analyze the different aspects of food security, vision and components of agriculture development strategy (ADS).

Last and remarks paper provides an over view of food security challenges and management system in Nepal. The paper has thoroughly analyzed the food security situation its features and issues in agricultural extension system development.

The workshop noted that food crisis response program was very successful it showed a guideline for future policy mandate, direction and necessary support to build a stable and effective food security system.

Finally, we would like to express our gratitude to all the participants for their guidance and valuable suggestions. We hope this proceeding will serve as a good asset for all agriculturists loving development practiceners.

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## Acronyms

ADB	Asian Development Bank
ADS	Agriculture development strategy
AFSP	Agriculture and Food Security Project
BS	Breeder Seed
DoA	Department of Agriculture
CBO	Community Based Organization
Cbsp	Community Based Seed Production Program
CDR	Central Development Region
DADO	District Agriculture Development Office
DANIDA	Danish International Development Agency
EDR	Eastern Development Region
EU	European Union
FAT	Farmers Acceptance Trail
FFS	Farmers Field School
FGD	Farmers Group Development
FNSP	Food and Nutrition Security Plan of Action
FS	Foundation Seed
FWDR	Far Western Development Region
GHI	Global Hunger Index
GoN	Government of Nepal
ha	hectare
HP	Horse Power
HCRP	Hill Crop Research Program
ICWMP	Integrated Crop and Water Management Program
IWRMP	Irrigation and Water Resource Management Program
INGO	International Non Government Organization
IRD	.....
JT	Junior Technician
kg	Kilogram
MSNP	Align with the Multisector Nutrition Plan
MoAD	Ministry Of Agriculture Development
MoFALD	Ministry Of Federal Affairs and Local Development

MoU	Memorandum of understanding
MWDR	Mid-western Development Region
Mt.	Metric ton
NARC	Nepal Agriculture Research Council
NGO	Non government organization
NMRP	National maize research program
No.	Number
NPC	National Planning Commission
NPRP	National Potato Research Program
NSC	National seed company
NVC	National Vigilance Centre
PBS	Pre-basic Seed
RARS	Regional Agriculture Research Centre
SDC	Swiss Development Corporation

## **National Review Seminar on Food Crisis Response Program**

### **Background**

Food crisis Response program with the loan and grant assistance from the World Bank is being implemented by Government of Nepal (GoN) for a new project on 1) Social Safety Nets and 2) Additional Financing to the Irrigation and Water Resource Management Project in 23 remote mountainous and hilly districts of Nepal. This project was started on 24-04-2008 and completed on 30-06-2014.

Food crisis Response program, which targets Eastern, Central, Western, Mid-Western and Far-Western Development Regions, of remote mountainous and hilly districts of Nepal providing immediate relief to poor and small farmers of food deficit hilly and mountain district.

This program has come as an additional program to integrated crop and water management program (ICWMP) of irrigation and water resource management project (IWRMP).

This project was implemented directly under the Department of Agriculture. Regional Agriculture Directorates and District Agriculture Development Offices from the project area were directly participated in the implementation of this project.

### **The Project**

Food crisis Response program, aimed to provide immediate relief to poor and small farmers of food deficit hilly and mountain district of Nepal.

### **Objectives of the Project**

The objectives of this program were to increase agriculture production, productivity through the use of irrigation, fertilizer, and use of improved seeds and improved soil management has been the basic objective of the project.

### **Location of the Project**

The target districts of the Food crisis Response program were of 23 remote mountainous and hilly districts of Eastern, Central, Western, Mid-Western and Far-Western Development Regions of Nepal.

## **Special features of the Project**

### **Systematic and Integrated approach**

The project was able to address the issues of food crisis to the poor and small farmer in hilly and mountainous district. It deliberately includes the irrigated agriculture practices through the DADO Offices. It is an approach operated in the government system rather unlike other projects contracting NGOs, CBOs and other organizations for the completion of the task.

### **Demand and Stakeholders-Driven**

There were some interventions on the agri-extension activities for informing the stakeholders about the project and project activities such as small scale irrigation, distribution of source seed, chemical fertilizer, trainings, farmer's field school, etc. The project emphasized on the development of community based seed production program on the basis of stakeholders demand.

### **Socio-economic inclusion**

The project contained a package of activities aimed at the poor and disadvantaged community to move them out of poverty and allow them to participate in commercial production by utilizing source seed, fertilizer, water resources and soil improvement. Their mindset was changed from traditional to commercial production system. As a profession, farmer must think agriculture as a business. Thus there was need to link them to the effective, efficient and viable irrigated agriculture system to increase farmer's income levels through increasing production and productivity of major crops.

### **Minimization of Operating Cost**

The important feature of the project was its implementation arrangement. Besides assigning the project to the consulting firms and other functional party which needs much more additional operating cost, the project was run by the government agency in district level (DADO). This project assured that the budget allocated to the agricultural development was utilized for the particular areas with minimal

project operating cost. Also assured that there was no abuse of fund as the DADO follows government account system.

#### Impact and Outcomes

- Increased food grain production
- Reduced poverty level
- Commercialization of high value commodities

Sustainable agricultural development through inclusion of poor and marginal farmers in the formulation of agricultural program.

#### Inaugural Session

The inaugural session was held on March 31, from 8:00 AM. The session was inaugurated by Secretary Minister of Agriculture Development Mr. Jaya Mukunda Khanal and chaired by acting Director General Mr. Sureshbabu Tiwari, Department of Agriculture. Distinguished guests present in the occasion included Mr. Rajendra Adhikari, Joint Seceretary of MoAD, chief of seed quality control centre.

The seminar observed the participation of over 150 personnel including distinguished governmental officials, scientists, and researchers from various governmental and nongovernmental institutions of Agriculture such as ministry of Agriculture Development (MoAD), Department of Agriculture (DoA), Nepal Agriculture Research Council (NARC), Representative from ministry of finance (MoF), Representative from National Planning Commission (NPC), Representative from National Vigilance Centre (NVC) etc. During the inaugural session, Mr. Laxman Prasad Poudel, Project manager of the Irrigation and Water Resources Management Project (IWRMP/DoA) put forward the welcome address. He highlighted the objective of holding the seminar and also emphasized on outputs of food crisis response program and the importance of food security for all round national development. He concluded his speech by briefing the one day seminar program.

Thereafter, the august gathering was addressed to stand with national anthem. Finally opening ceremony was performed by watering on potted flower by chief guest.

#### Technical Sessions

After the Inaugural Session, five main Technical Sessions were held (Details of the program mentioned in Annex), the sessions were chaired by for Director General Mr. Suresh babu Tiwari, Department of Agriculture.

**Technical Session I** was chaired by Mr. Suresh babu Tiwari during which Mr. Laxman Prasad Poudel presented the Paper on "Nepal Food Crisis Response Program: Status and Achievements". Mr. Durga Dawadi was a commentator for this paper. Following massive discussion and interaction by the participants, the report was endorsed.

**Technical Session II** was chaired by Mr. Sureshbabu Tiwari during which Dr. Jwala Bajracharya presented the Paper on "Social Safety Nets Project – AF Seed Sub Component-2 Progress & Achievements ". Mr. Suresh Gautam was a commentator for this paper. Following massive discussion and interaction by the participants, the report was endorsed.

**Technical Session III** was also chaired by Mr. Suresh babu Tiwari during which Dr. Rajendra Adhikari presented the Paper on "Food Security and Agriculture Development Strategy (ADS): A review". Dila ram Bhandari was a commentator for this paper. Following massive discussion and interaction by the participants, the report was endorsed.

## Technical Session (Paper presentation)

First paper

### Nepal Food Crisis Response Program: Status and Achievements

Laxman Prasad Paudel, Coordinator, IWRMP-DoA

#### Projects under the program

##### Additional Financing to IWRMP

- Budget head – 3121413/4
- Project commencement: 04/24/2008
- Project completion M 06/30/2013 -06/30/2014
- Total cost of the project NRM 1,06,00,00,000 (14.3 m USD)

##### Social Safety Nets Project

- Budget head – 3121413/4
- Project commencement : 09/30/2008
- Project completion : Completed on- 09/30/2013
- Total cost of the project NPR: 51,61,00,000

##### Specific interventions

- Social safety nets project
- A short term program for vulnerable districts through the food/cash for work program
- The provision of essential inputs (seed and fertilizer) to remote districts

##### Additional financing to IWRMP

- Small scale and non-conventional irrigation
- Increased local production of improved seeds

##### Overall allocation

Component wise investment	Total cost (USD mil.)	Responsible agency	Implementing agency
Social safety nets- new project			
<u>Component-1</u> Food/cash for work programs including nutrition	16.2	MoLD	MoFALD/WFP
<u>Component-2</u> Transport subsidy for seeds and fertilizer access to 23 remote districts	3.0	MoAD	DoA
<u>Component-3</u> Project coordination, impact evaluation and participatory assessment including assessment of existing cash transfer programs	2.5	MoLD	MoFALD/DoA

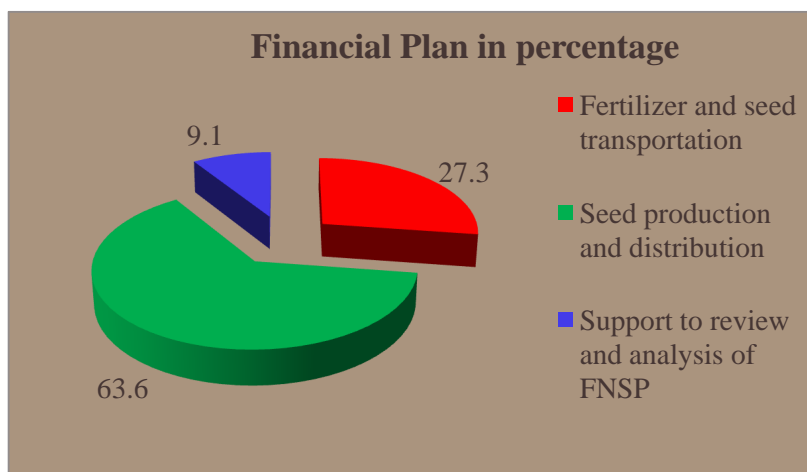
##### Social safety nets project

##### Objectives

- To create opportunities for improved agriculture production in food insecure districts.
- Scaling up community managed seed production program by increasing availability of quality seeds.
- To provide technical assistance to support the review and analysis of proposed food and nutrition security program under the MoAD.

### Support for Seed and Fertilizer

- No. of districts - 23
- Start Date: Sep 30, 2008
- IDA Grant/Credit: 3 m USD
- Project period: 36 months
- Implementing Agencies: DoA/MoFALD
- (Comp.-2: Support for Seed & Fertilizer-100.00 % of the expenditure, DoA)
- Procurement of transport subsidy (Fertilizer and Seeds)
- Seed production and distribution (NARC)
- Support to review and analysis of FNSP (MoAD)



### Three years Source Seed Production program (NARC)

Source Seeds	Production (mt.)			
	FY 2010/011	FY 2011/012	FY 2012/013	Total
Breeder Seeds	72.2	110.4	157.4	340
Foundation Seeds	798	1188	1327	3313
Total Quantity	970.2	1298.4	1484.4	3653

### Implementation progress on seed & fertilizer distribution

Major activities	Unit	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	Cumulative Progress
1. Subsidy on chemical fertilizer transportation (Target 7240 mt.)	Metric tons	484.98	3394.2	3531.02	3803.74	11213.94
2. Subsidy on improved seeds transportation (Target 650 mt.)	Metric tons	24.57	176	189.83	236.36	626.76
3. Independent monitoring of chemical fertilizer and improved seed distribution	times	0	0	3	2	5



### Fertilizer and seed distribution (mt.) on Regional basis

	Fertilizer	Improved Seed
EDR	5118.9	212.6
CDR	427.6	27.5
WDR	876.4	65.5
MWDR	2924.2	200.2
FWDR	1866.4	120.6
Total	11213.4	626.4

### Progress towards Result

	Overall Target	Mid Term Progress	Up dated Progress
Beneficiary Household	43000	43300	43500
Fertilizer Distribution	7240	7410.2	11213.94
Source Seed Transportation and Distribution	650	390.4	626.76

### Expenditure and Disbursement Status

Budget: NRs. 516, 100

Expenditure: NRs. 329, 292 (63.8%)

Disbursed: NRs. 164,30

Expenditure: 49.89 %

Total Budget: 31.8%

Particular	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13	Total
Original Budget	15000	65000	105000	184500	102200	651700
Revised Budget	15000	60000	110000	202500	128600	516100
Expenditure	6721	53120	104553	164898		329292
IDA Disbursement	6721	52896	104742			164359

### Achievements

- Cereal production increased by more than 20% and Food security situation Improved due to synergetic effect of small irrigation and the use of fertilizer and improved seed
- 2 to 3 months in eastern hills (Solu, Khotang and Okhaldhunga) and Ramechhap.
- 2 months of Western hill of Manang.
- 2 months of Mid-western hills of Jajarkot and Rukum.

### Improvement in food security in Eastern Hills of Nepal

Districts	Months of food sufficiency before the project	Months of food sufficiency after the project
Ramechhap	6	8
Okhaldhunga	7	9
Solukhumbu	7	10
Khotang	9	10

### Improvement in food security in Rukum

ASC	Months for food sufficiency	Increment of months for food sufficiency	Remarks
Chaurjhari	8	10	
Khalanga	9	11	
Rukumkot	6	8	
Athbiskot	6	9	

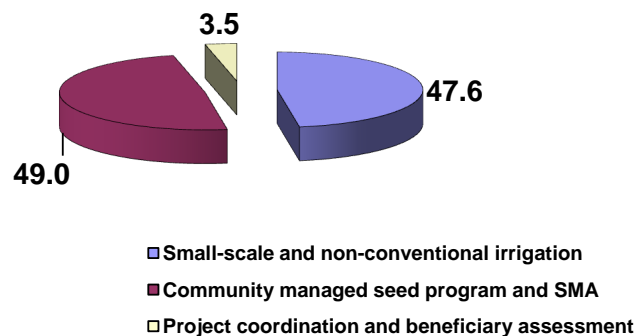
### Additional financing to IWRMP

Planned	Implemented
<ul style="list-style-type: none"> <li>Improve crop productivity and food security in food insecure 23 district</li> <li>Support intermediate output of IWRMP</li> <li>Improve small scale irrigation schemes</li> <li>Improve community based seed production</li> </ul>	<ul style="list-style-type: none"> <li>Implemented through DADOs</li> <li>Expenditure:- 75.39% of total revised budget</li> <li>Disbursement: 82.51 % of the total Expenditure</li> <li>3412 small irrigation schemes completed.</li> <li>38 seed centers established.</li> </ul>

CBSP Activities	Outputs of CBSP activities
<ul style="list-style-type: none"> <li>Establish CBSP&amp;MGs</li> <li>Organize trainings and Capacity Building activities</li> <li>ToT for DADOs / RSTL Staff/Farmers' Trainings</li> <li>Develop entrepreneurship skill for Seed Centers</li> <li>Assist in building a database for networking for producers group and organizations</li> <li>Construction, Management and O&amp;M of seed centers</li> </ul>	<ul style="list-style-type: none"> <li>38 CBSP &amp; MGs formed</li> <li>Construction of seed center building for 38 CBSP &amp; MGs</li> <li>Community professionals trained</li> <li>Seed Multiplication</li> </ul>

### Additional financing to IWRMP

Financial Arrangement



### Major activities and overall project progress

Major Activities	Unit	Fiscal Year 2008/2009	Fiscal Year 2009/2010	Fiscal Year 2010/2011	Fiscal Year 2011/2012	Fiscal Year 2012/2013	Fiscal Year 2013/2014 (First Trim.	Cumulative progress
Improvements and construction of small irrigation scheme (3000 )	No.	445	1017	1131	719	179		3491
Officer level Training (Participant )	No.	19	20	24	22	20	11	116
JT/JTAS Level Training (Participant )	No.	27	60	57	22			166
Farmers Level Training (Participant)	No.	43	50	43	72	38	38	284
50 percent subsidy on improved seed	Mt.	24.75	176	189.83	236.36	210		836.94
Cow shed improvements	No.	176	644	638	673	680		2811

### Major activities and overall project progress

Major Activities	Unit	Fiscal Year 2008/2009	Fiscal Year 2009/2010	Fiscal Year 2010/2011	Fiscal Year 2011/2012	Fiscal Year 2012/2013	Fiscal Year 2013/2014	Cumulative progress
Micro- nutrient / Composting Demonstration	No.		690	650	687	666		2693
Service centre Level training on Sustainable Soil Management	No.	23	115	112	115	115		480
FFS on Integrated Plant Nutrient Management (92)	No.	12	22	21	23	23		101
Chemical fertilizer transportation up to service centre level	Mt.	484.98	3394.24	3531.02	3803.74			11213.98

826 VDCs and 58790 hh were benefitted from improved seed and chemical fertilizer distribution

### District and number of community seed store houses in EDR

S.N.	District	Number of Seed house	Location
1	Okhaldhunga	3	Harkapur, Kuntadevi & Rumjatar
2	Bhojpur	2	Pyakula Chyambre VDC, Siddheshwor VDC
3	Sankhuwasava	1	Chainpur Sidhakali
4	Khotang	3	Nunthala, Halesi, Nerpa VDC
5	Tehrathum	3	Hamurju, Suda, Sankranti Bazar VDC
6	Taplejung	1	Thechambu VDC
7	Solukhumbu	1	Tingla VDC
	<b>Total</b>	<b>14</b>	

### District and number of community seed storehouses in CDR

S.N.	District	Number of Seed house	Location
1	Ramechhap	2	Khimti & Okhrenei VDC
	<b>Total</b>	<b>2</b>	

### District and number of community seed storehouses in WDR

S.N.	District	Number of Seed house	Location
1	Gorkha	1	Palungtar VDC
2	Myagdi	3	Ratnechaur, Babiyachaur, Takam VDC,
	<b>Total</b>	<b>4</b>	

### District and number of community seed storehouses in MWDR

S.N.	District	Number of Seed house	Location
1	Humla	2	Saya & Kharpunath
2	Salyan	2	Rampur & Senikhal
3	Rukum	1	Sakha VDC
4	Rolpa	4	Mirul, Gairigaun, Liwang, Jamkot VDC
5	Jajarkot	2	Dhime, Karkigaun Jogra VDC
6	Dailekh	1	Dullu VDC
7	Mugu	1	Karkibada VDC
	<b>Total</b>	<b>13</b>	

### District and number of community seed storehouses in FWDR

S.N.	District	Number of Seed house	Location
1	Achham	1	Jalpadevi VDC
2	Bajura	1	Kolti VDC
3	Darchula	2	Shankarpur, Gaukule VDC
4	Bajhang	1	Ritha BataVDC-4,6
	<b>Total</b>	<b>5</b>	

### Institutional Support

#### Supports to Seed Processing Centers

S.N	Description of Goods	Quantity	Physical unit
1	Seed Cleaning cum grading Machine	38	Numbers
2	Seed Treater	38	Numbers
3	Seed Bag Sealing/Stitching Machine	76	Numbers
4	Trolley for Seed Bag Transportation	228	Numbers

### Lab Equipment (Supports (55 items of 21 categories)

S.N.	Description of Goods	Quantity	Physical unit
1	Atomic Absorption Spectrophotometer	1	Set
2	Digital pH meter	1	Set
3	Electronic Precision Balance (2.50kg)	1	Set
4	Electronic precision balance (3.5kg)	3	Set
5	Flame photometer	2	Set
6	Kjeldahl Distillation & Digestion System	1	Set
7	Spectrophotometer	1	Set
8	Digital Grain Moisture Meter	8	Set
9	Desiccator	1	Set
10	Hot Air Oven	2	Set
11	Seed Germinator	5	Set
12	Advanced Biological Microscope	2	Set
13	Trinocular Stereozoom Microscope	3	Set
14	Video-cum photo Camera (for microscope)	1	Set
15	Microtome	1	Set
16	Tissue Processor	1	Set
17	Multi-parameter Water Quality Testing Equipment	1	Set
18	Electronic Platform Scale (100 kg)	3	Set
19	Electronic Table Top Scale (10kg)	3	Set
20	Power Sprayer	11	Set
21	Centrifugal Pump	3	Set

### Resource Centers Supported by Project

S.N.	Resource Centres	Activities
1	Regional Training Centre, Kanchanpur	Wire Fencing
2	FF Fishries Development Centre, Geta	Wall Fencing
3	Horticulture Centre, Nawalpur	Onion Storage (5 tons)
4	Citrus Development Centre, Palpa	Threshing Floor
5	Vegetable Seed Production Centre, Dolpa	Threshing Floor
6	Spices Crop Development Centre, Panchkhal	Threshing Floor
7	Horticulture Centre, Marpha	Water Harvest Tank

### Farm Machineries Supports to Resource Centers

S.N.	Resource Centers	Name of machine support	Nos.
1	Seed Production Centre, Chandradangi	Seed Grader, Tractor	Each one
2	Horticulture Centre, Nawalpur	Seed Grader	1
3	Horticulture Centre, Nawalpur	Rotovator	1
4	Spices Crop Development Centre, Panchkhal	Power Tiller	1
5	Horticulture Centre, Marpha	Power Tiller	1
6	Horticulture Centre, Janakpur	Power Tiller	1
7	Seed Production Centre, Rukum	Power Tiller	1
8	Horticulture Centre, Nuwakot	Power Tiller	1

### Expenditure and Disbursement Additional Financing to IWRMP (,000 NRs)

	Original	Revised	Expenditure	Disbursement
2008/09	205000	117000	117269	115220
2009/10	258269	160000	169378	156510
2010/11	302190	212000	199540	211668
2011/12	171570	181000	153991	152102
2012/13	121200	390000	159031	239224
Total	1058229	1060,000	799209	659424

Expenditure:- 75.39%, and Disbursement: 82.51 % of the total Expenditure

### Progress towards results

Result Indicator	Target	Progress
Seed Replacement Rate	10%	10.50%
Small Irrigation Schemes	3000	3412

From 3354 Small Irrigation Schemes a total of 362 ha additional agricultural land had been irrigated.

### Major outcome of Food Crisis Response Program

- 373 ha of the irrigated land is added in the remote districts.
- It is observed that in the districts of khotang, solukhambhu, okhaldhunga, ramechhhap, manang, jajarkot and rukum due to the use of improve seed and fertilizer production of paddy, wheat, maize, millet and potato was increased by 20 percent. This report was taken from outsider monitoring team.
- Due to increment of cereal crop production food insecurity was reduced by 3 months in that districts.
- 38 seed storage and processing plants were established in different districts, seed storage practice and seed self sufficiency was increased.

### Major activities for 2013/014

- Construction of large scale seed processing and storage center in;
  - Maharanihjoda, Jhapa
  - Dumkauli, Nawalparasi
  - Motipur, Rupandedhi
  - Rajapur, Bardiya
  - Pipaladi, Kanchanpur
- Capacity – 100 mt. seed processing and storage
- After of the completion of 5 seed processing and storage center it is estimated about 7000 ha of land will be occupied by improve seed.

## Second Paper

### Social Safety Nets Project – AF Seed Sub Component-2 Progress & Achievements

Jwala Bajracharya, PhD

Nepal Agricultural Research Council  
Khumaltar, Lalitpur

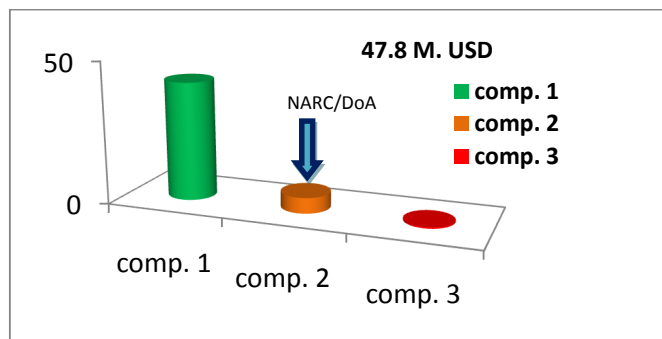
#### Presentation outlines

- Project overview on seed component
- Project Progress & achievements of year I, II and III
- Issues/challenges/experiences
- Ways forward and thoughts

#### SSNP-AF Project overview

- Component 1: Improving access to nutritious food for vulnerable populations
- Component 2: Support for seed and fertilizer
- Component 3: Project coordination and monitoring and evaluation

#### Overview of budget allocation for different components



### Component 2: Support for seed and fertilizer Source Seed - as a subcomponent

#### Financial Plan in percentage

##### Seed production and distribution

- NARC implementing organization
- 3 years project duration (2010 – 2013)
- Total project cost for Seed 3.5 million USD
- MoU Signed between NARC and DoA
- Among the total budget allocated 27.3 percent for seed and fertilizer transportation, 63.6 percent for seed production and distribution and 9.1 percent for support review and analysis of FNSP.

#### Project overview

The seed sub-component 2 under SSNP-AF (SSNP-AF/SS-2) is designed to

- Develop a sustainable BS and FS production system
- Improve the production and supply of quality seeds
- Insure a functional and sustainable seed production & supply of improved crop varieties
- SSNP-AF/SS-2 - a three year project (2010-2013)

#### SSNP-AF/SS-2 Project rationale and modality

- Availability of genetically pure breeder and foundation seeds especially in remote areas
- Poor capacity, resources and monitoring
- Support to NARC seed production stations
- Develop a sustainable breeder and foundation seed production system
- Ensure a functional and sustainable seed production and supply of improved varieties

### Project objectives

- Increase the availability of quality seeds to the farmers
- Improve/increase SRR by use of improved seed through the program of quality seed production and supply
- Create awareness and provide technical services on seed production and use of quality seeds

### Major Project Activities

Production and supply of BS and FS

- Develop and strengthen groups producing foundation /certified/improved seeds
- Capacity building to support the farmers' groups on seed production
- Establish linkage and coordination among seed stakeholders
- Improve the supporting infrastructure, resources, services in farm/stations

### SSNP/AF-SS-2 project outputs

- Improve SRR and increase cultivated area by certified/improved seeds during project period
- 340 tons of BS and 3313 tons of FS to be produced in 3 years project period
- Production and distribution of improved seeds
- Ensure increased availability of improved seeds and improve crop production.

### Nepal Agricultural Research Council Budget and Expenditure

#### Fiscal Year 2010 – 2013

Fiscal Year	Release	Expenditure	Balance	Progress %
Year I	49,000,000.00	40,961,410.42	8,038,589.59	83.59
Year II	126,000,000.00	108,628,287.29	17,371,712.71	86.21
Year III	99,500,000.00	84,319,799.01	15,180,200.99	84.74
<b>Total</b>	<b>236,250,000.00</b>	<b>174,311,429.48</b>	<b>61,938,570.52</b>	

Progress achieved on released budget – 85.21%

Progress achieved on MoU budget – 95.47%

#### Nepal Agricultural Research Council Budget status – 3 Years (2010-13)

Budget heads	Approved	Released	Expenditure	Balance
<b>Capital</b>	<b>108,035,000.00</b>	<b>108,035,000.00</b>	<b>84,494,889.93</b>	<b>23,540,110.07</b>
Works	44,750,000.00	44,750,000.00	28,242,442.56	16,507,557.44
Goods	63,286,000.00	63,285,000.00	56,252,447.37	7,032,552.63
<b>Current</b>	<b>166,465,000.00</b>	<b>166,465,000.00</b>	<b>149,414,606.79</b>	<b>17,050,393.21</b>
Training	38,755,700.00	38,755,700.00	30,536,654.94	8,219,045.06
Services	123,404,600.00	123,404,600.00	114,730,419.63	8,674,180.37
Contingency	4,304,700.00	4,304,700.00	4,147,532.22	157,167.78
<b>Total (NRs)</b>	<b>274,500,000.00</b>	<b>274,500,000.00</b>	<b>233,909,496.72</b>	<b>40,590,503.28</b>

### Districts under project

Districts under SSNP-AF/SS2 program in year I (2010/11) - 18

Districts under SSNP-AF/SS2 program in year II (2011/12) - 44

Districts under SSNP-AF/SS2 program in year III (2012/13) – 50

### Project Districts (On-farm seed production)

Region/Agro zone	Terai	Mid-hill	High-hill
Eastern	Sunsari, Jhapa, Saptari, Siraha, Udayapur, Morang	Sankhuwasabha, Illam, Dhankuta, Terhathum	Khotang
Central	Bara, Parsa, Dhanusha, Mahottari, Sarlahi, Chitwan,	Dolakha, Ramechhap, Sindhupalchowk, Kavre, Bhaktapur, Lalitpur, Makwanpur, Sindhuli	
Western	Rupandehi, Kapilbastu	Nawalparashi, Arghakhanchi, Lamjung, Tanahu, Kaski, Banglung, Parbat, Syangja	
Mid Western	Banke, Dang, Kailali	Salyan, Dadeldhura, Rolpa, Pyuthan, Baitadi, Doti, Surkhet, Dailekh, Achham, Jajarkot,	Kalikot, Humla, Jumla, Mugu
Far Western			Dolpa, Darchula

### Major Activities/Progress – year I

- Inception workshop - 2
- Project orientation meetings
- Trainers' training - 1
- Farmers group training - 10
- Demonstration plots - 10
- BS & FS Seed Production – 5/21
- Procurement of goods/works – 3/4

### Project Activities/Progress – Year II

BS and FS production of targeted crops (5 in 21 stations)  
 Source seed production with farmers groups (44D; 69Gr.)  
 Training/study tour  
 - Refresher's training – 1  
 - Farmers training on seed production – 44  
 - Training/study tour on seed technology – 1

Demonstration Plots (44)

Monitoring of seed production fields – 2

New land preparation

Capacity building - Procurements

- Goods: farm machineries, lab. Equipment, vehicles, furniture and fixture
- Works: new constructions and rehabilitations

### Project Activities/Progress – Year III

BS and FS production of targeted crops (5 in 21 stations)

Source seed production with farmers groups (50D; >69Gr.)

Training/study tour

- Farmers training on seed production – 50
- Training/study tour on procurement – 1

Demonstration Plots (>60)

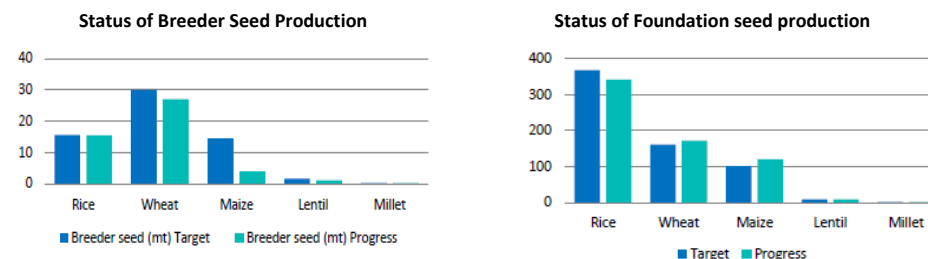
Monitoring of seed production fields – 2

Additional pilot program

Capacity building - Procurements

- Goods: farm machineries, lab. Equipment, vehicles, furniture and fixture
- Works: new constructions and rehabilitations

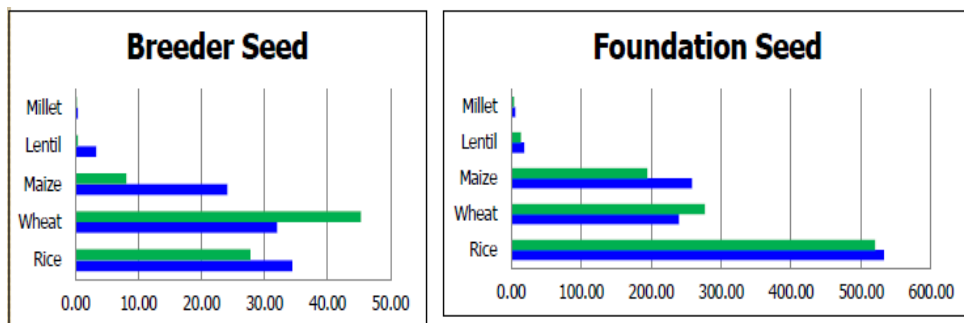
### Seed production – year I



- 78.5 % in production of BS achieved
- 100.5 % in production of FS achieved
- In total 98.5 % source seed production achieved

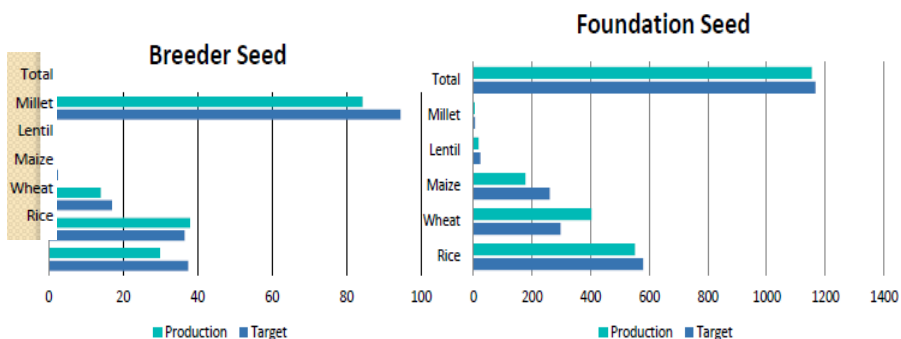


### Seed production – year II



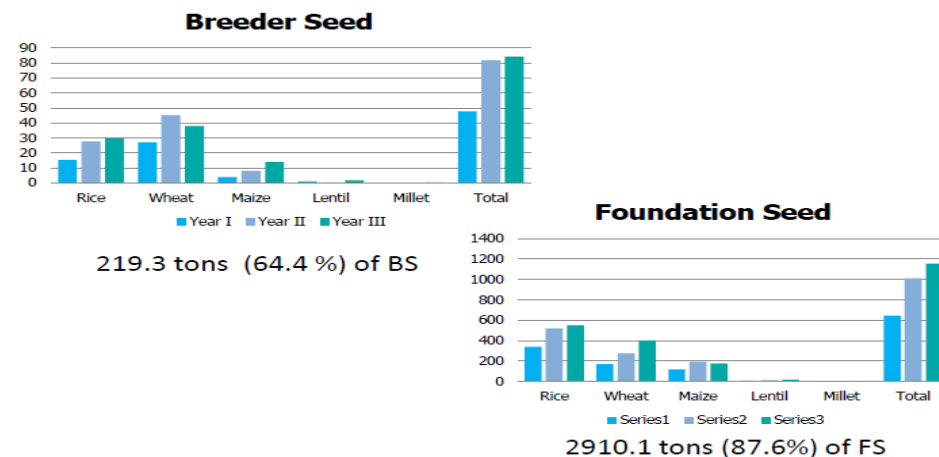
- 94.7 % source seed production achieved in total (on station/on farm)

### Seed production – year III



- 89.2 % in production of BS achieved
- 98.9 % in production of FS achieved
- 98.2 % source seed production achieved in total (on station/on farm)

### Total Seed Production in 3 years



### Procurements – Year I

Farm machinery/equipment	Repair and maintenance
Seed processing unit with multiple seed cleaner, grader, treator	Repair of threshing floor
Hand operated sprayer/duster	Irrigation Channel
Fumigation cover	Underground Irrigation Pipeline, 200 meters
Tractor 45 HP	Repair and maintenance of seed storage godown
Plate form balance	
Grain moisture meter	
Stitching machine	
Germinator	
Sterio microscope	

### Procurements – Year II

Farm/machinery/equipment	Office equipment	Constructions and rehabilitations
Maize planter/cob drier/dehusker/sheller	Computers: Laptop	Construction of threshing floor and shed
Multi-crop seed drill	Digital camera	Construction of deep tube well
Seed grader/seed counting machine	Office furniture & fixtures	Construction of irrigation channel/overhead water storage tank
Seed packaging units/hand pouch heat sealer	Diesel generator	Construction of threshing floor/ground water storage tank
Crop thresher	Vehicle – pick up/motorbikes	Repair and maintenance of seed storage godown
Water sprinkle irrigation system/pump sets	Rehabilitation of walk in germinator/seed store	
Power tiller with reaper		
Germinator/refrigerator		
Spectrophotometer		

### Procurements – Year III

Farm machinery/equipment	Construction, Repair and maintenance
Rice trans-planter, disc harrow	Construction of generator house and maintenance of seed storage godowns and covered threshing floor in RARS, Tarahara
Power sprayer/duster	
Combine multi-crop harvester	Rehabilitation of electricity system in RARS, Tarahar, Parwanipur, Nepalganj; NMRP, Rampur and SSTD, Khumatar
Seed treating cum dressing drum, seed cleaner and grader	

### Procurements – Year III

Farm machinery/equipment	Construction, Repair and maintenance
Soil pH meter, autoclave	
Grain analyzer computer, hot air oven	
Soil divider, seed purity board	
Tractor 60 HP, transportation tailor	
Trinocular Sterio zoom microscope	
Horizontal laminar flow, chlorophyll meter, leaf area meter	
Spectrophotometer, Flame photometer, seed scanner	
Multimedia projector and laptop PCs	

### Breeder Seed of Paddy Production in Regional Agriculture Research Centre Tarahara

Variety	Area [ha]	Production [kg]
Hardinath-1	1.00	2000
Chaite-2	1.00	1500
Radha-12	1.50	4080
Lalka Basmati	1.00	1440
Tarahara-1	0.50	640
Total	5	9960

### Breeder Seed of Maize Production in Regional Agriculture Research Centre Tarahara

Variety	Area [ha]	Production [kg]
Rampur Composite	0.75	1500
Arun-2	0.75	1500
Total	1.5	3,000

### Foundation Seed of Lentil Production in Regional Agriculture Research Centre Tarahara

Variety	Area [ha]	Production [kg]
Sheetal	0.5	250
Simrik	0.7	350
Sagun	0.8	400
Total	2.00	1000

#### On farm seed production

- Coverage in 50 districts
- 69 groups initiated foundation seed production
- Seed production demonstration->60

#### Supports

- Seed production training provided - 50
- Assisted in seed certification process
- Provisioned of seed, fertilizer, storage materials (Seed bin), tripal, seed bag etc.
- Regular technical support

### CBSP groups in EDR under Regional Agriculture Research Centre Tarahara

District	Name of group	Area coverage
Morang	Sayapatri Biu Utapadan Samuha	10
Sunsari	Unnat Krishi Sahakari Sanstha	3
	Mahila Jagriti Krisak Samuha	7
	Hariyali Krishak Samuha,	1
Saptari	Dihawaar Baba Krisak Samuha	2
Siraha	Sahalesh Fulbari Krisak Samuha	11
Jhapa	Mechi Krisak Sahakari Sanstha	4
<b>Total</b>		<b>38</b>

### FS Production by CBSP : Wheat

District	Name of Group	Area [ha]	Production [kg]	Variety
Sunsari	Unnat Krishi Sahakari Sanstha	2	3000	Aditya, Vijay, NL971
	Mahila Jagriti Krisak Samuha	4	6000	Gautam, NL-1073, NL-971, Aditya, NL-297, Vijay
Morang	Sayapatri Farmers Group	10	15000	Gautam, NL-1073, NL-971, Aditya, NL-297, Vijay
Saptari	Dihibar Baba group	1	1500	Aditya
Siraha	Sahlesh Fulbari Group	11	16500	Aditya, Gautam, NL-1073, NL-971, NL-297, Vijay
Total		28	4200	

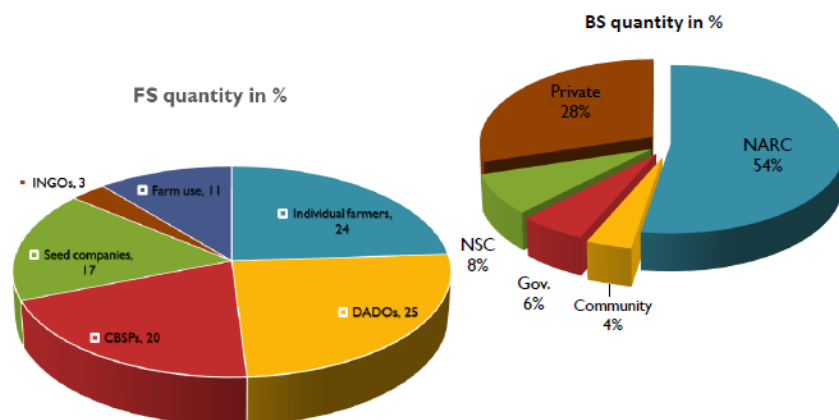
### FS Production by CBSP : Maize

District	Name of Group	Area [ha]	Production [kg]
Sunsari	Mahila Jagriti Krisak Samuha	2	3000
	Unnat Krishi Sahakari Sanstha	2	3000
Total		4	6000

### Breeder and Foundation Seed Distribution/Users groups

- NARC stations and seed producing farmers groups
- DOAD/DoA
- NSC
- Salt trading company
- Private seed companies
- Cooperatives/CBSP/
- NGOs/INGOs with seed component
- Seed development programs

## BS and FS distribution pattern



## Coordination and linkage

- Coordinate and linkage with
- RARS, Divisions, ARS, Commodity research programs of NARC
- Farm and stations of DOA
- Seed companies, cooperatives and seed producing groups
- NGOs/INGOs
- Stakeholder meetings/interactions/FGD at local/regional/national levels

## Additional Pilot Program in Year III

- Finger millet on-farm seed production, training and promotional support in Doti with concept of Millet village
- Buckwheat on-farm production, training and commercialization support in Dolakha/Chitwan
- Virus-free pre-basic (25000) and quality potato tuber production in Pakhribas
- Revolving fund in districts of Karnali
- Seed quality units in 5 seed centres

## Additional Seed Program

- **Virus free potato seed production in Khumaltar and Pakhribas**

- 25000 produced in NPRP
- PBS multiplied in screen house in Pakhribas (1 ton of 5 varieties)
- further multiplied on farm in Terhathum (11 tons)

- **Buckwheat seed production and commercialization in Dolakha and Chitwan**

- Seed of promising varieties produced in Dolakha in station and on-farm in Chitwan (1404 kg of IR 13, Acc# 2223-1 and Acc# 2227-1)

- **Finger millet seed production, training and promotional activities in Doti**

- Locally adopted millet landraces collected in Doti and evaluated in HCRP, Kabre
- IRD of dalle (1825 kg) distributed and carried demo plots in Doti and Achham

- **Piloting of revolving fund in Karnali**

- to establish a system of seed buy back in Karnali
- Jumla, Humla, Rolpa, Dolpa, kalikot
- 1.5 lakhs per district

## Project achievement and impact

- Increase in SRR in improved trend : 8.7 to 9.5 in paddy; 6.6 to 9.2 in maize and 9.9 to 10.4 in wheat
- NARC capacity on seed production improved and strengthened with sustainable seed facilities
- Farm and land resources of NARC stations fully utilized
- Significant progress in seed production in stations for target crops in quality and quantity achieved
- Geographical coverage of on-farm seed production
- A kind of synergy and linkage developed/resumed at local level
- Introduction of stress tolerant varieties
- Enhanced capacity built for communities and
- A knowledge of quality seed and its production established among the communities

### Experiences & Promotion activities

- Scaling up of promising varieties distribution in large quantities
- Minikits distribution in massive scale
- Media must be taken in use for expansion
- Training with FAT and minikit could be effective
- Seed bye back system in food deficit sites (seed management among CBSP groups)

### Challenges/Issues

- Effective plan for production BS and FS in advance
- Judicious distribution of BS and FS to seed producers
- coordination and linkage among research/extension/production/distribution institutions further to strengthen
- Seed demand and market network at local level
- Seed procurement & delivery mechanism
- Cyclic seed multiplication (seed to seed generation)
- Seed management under CBSP groups on-farm

### Ways Forward and Thoughts

- Continuation of on farm seed production approach in remote regions and areas with narrow agro-ecological zone where marketing is difficult
- Availability /access of quality seed at affordable price and improve the adoption of new varieties through informal seed system (IRD/PVS/Demo.)
- Capacity build of CBSP groups and establish a functional chain with station
- Initiatives on localized seed production of specific and adapted crops in the region (Crop zoning, focus on flood /drought tolerant varieties)
- Effective seed demand and supply and establish a market network
- Collaboration with private seed companies on FS production
- Promotional activities for adoption of new varieties (Minikits, media etc)
- Harmonization of seed regulations
- Extension of SSNP for few more years for taking towards sustainability

### Third Paper

#### Food Security and Agriculture Development Strategy (ADS): A review

Rajendra Prasad Adhikari, PhD

Ministry of Agricultural Development

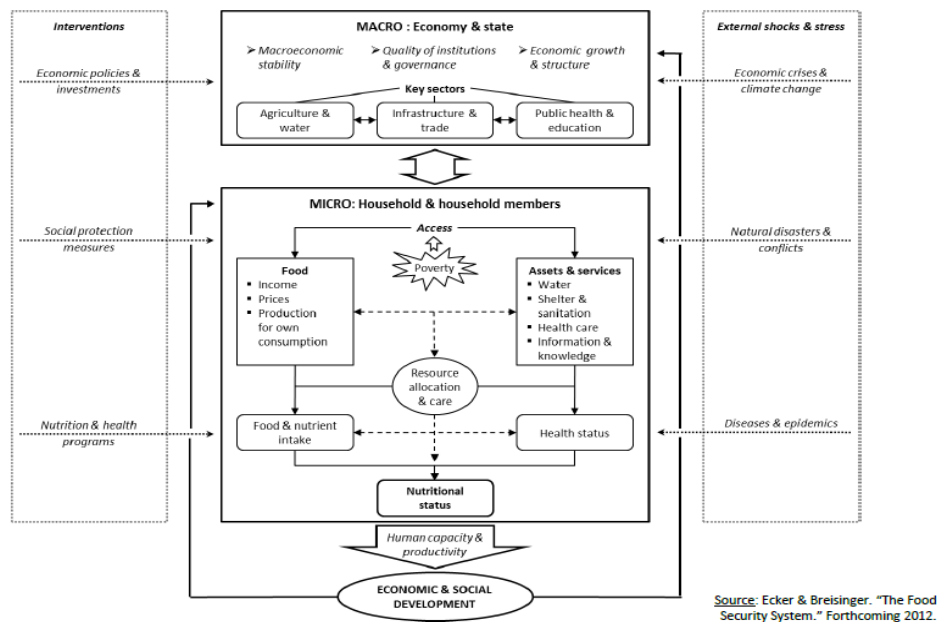
#### Presentation Outline

- Food and Nutrition Security: changing dimensions
- ADS and Food and Nutrition Security

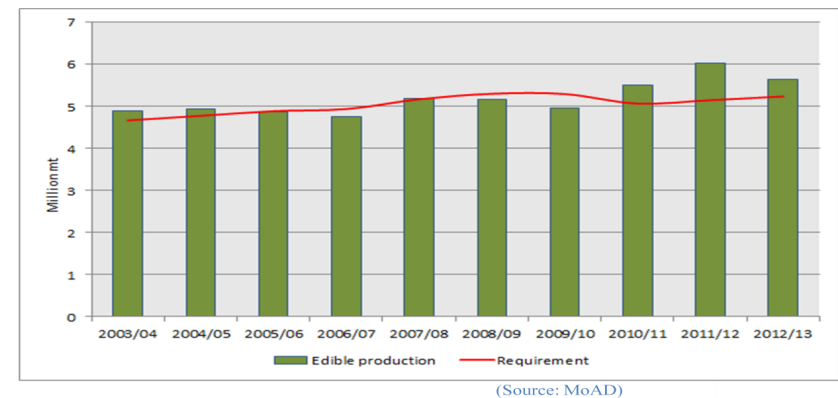
#### Food and Nutrition Security: changing dimensions

World Food Summit 1974	Availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices	Volume and Stability of Food Supply
FAO 1983	Ensuring that all people at all times have both physical and economic Access to the basic food that they need	Demand and Supply
World Bank 1986	Access of all people at all times to enough food for an active, healthy life	Temporal dimension
UNDP 1994	Food Security as a component of human security(means to human development, multiple level)	Human right perspective
World Food Summit 1996 (Reconfirmed on World Summit of Food Security 2009)	Food security, at the individual, household, national, regional and global levels [is achieved] when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life	Multiple levels, safety perspective, (Nutritional component integral)

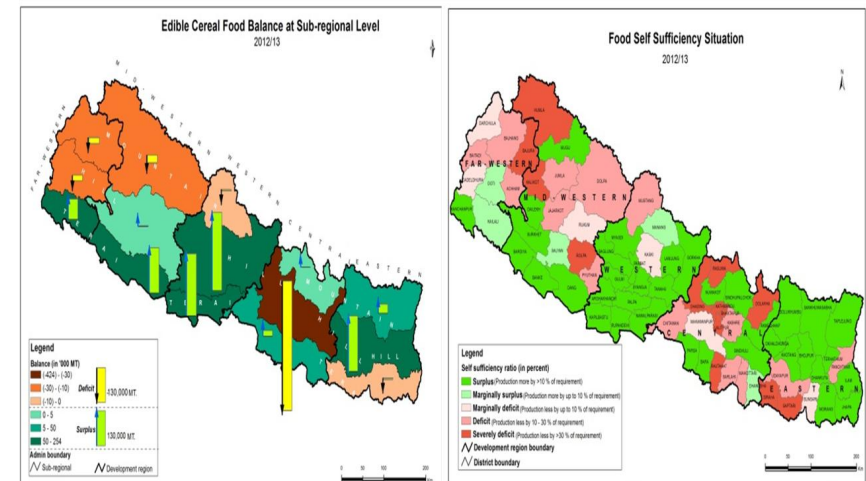
## Food and Nutrition System: Macro and Micro



## Food Balance Sheet (2060 to 2070): comparison



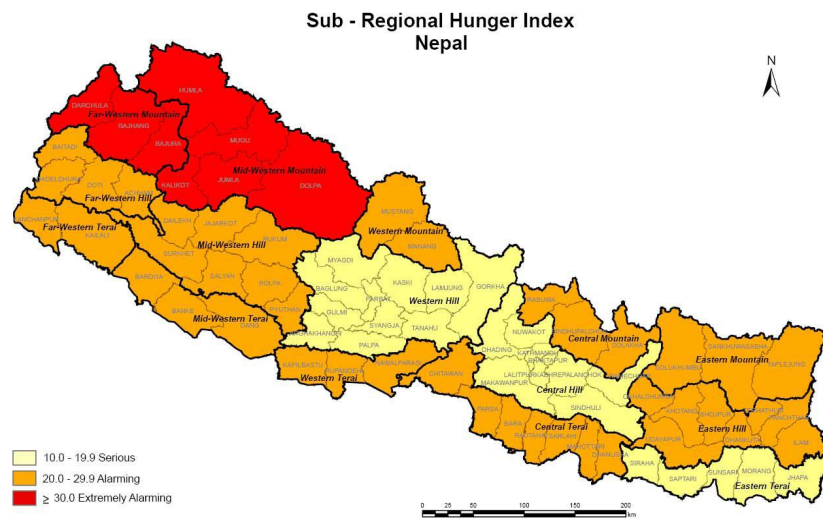
## Food Self Sufficiency: Regional and district status



## Food and Nutrition Security Situation in Nepal

- 33 Districts: Food insecure (2013)
- Nepal's position in Global Hunger Index (GHI) 2013: 49/78
- Nepal's GH Index 2013: 17.3 (Serious Situation)
- Steady progress in reducing hunger though
  - 28.0 in 1990
  - 27.3 in 1995
  - 25.3 in 2000
  - 22.3 in 2005
  - 17.3 in 2013

## Nepal in Hunger Index



## ADS and Food and Nutrition Security

### Constitutional Provisions

#### Fundamental Rights

- ▶ Every citizen shall have the right to food sovereignty, as provided in law.18(3)

#### Obligation of State

- ▶ To pursue a policy of establishing the right of all citizens to education, health, housing, employment and food sovereignty. 33(h)

#### Policies of State

The State shall pursue a policy of uplifting the economically and socially backward indigenous peoples, Madhesi, Dalit, marginalized communities, and workers and

farmers living below the poverty line, by making a provision of reservation in education, health, housing, food sovereignty and employment, for a certain period of time. 35(10)

### Food Security: Obligation of Duties

It can be mockery to tell someone they have the right to food when there is nobody with the duty to provide them with food. That is the risk with the rights rhetoric. What I like about choosing the counterpart, the active obligation of duties rather than the rights, you can't go on and on without addressing the question who has to do what, for whom, when.

Onora O'Neill, Philosopher

### ADS VISION

"A self-reliant, sustainable, competitive and inclusive agricultural sector that drives economic growth and contributes to improved livelihoods and food and nutrition security."

Dimension of Food Security	Issues	Evidence
<b>Food Security</b>		
<b>Availability</b>	<ul style="list-style-type: none"> <li>• Low production and stagnant productivity</li> <li>• Population growth higher than the growth of cereal production</li> </ul>	<ul style="list-style-type: none"> <li>• Productivity of major crops lowest among South Asia</li> <li>• Nepal net importer of food products</li> </ul>
<b>Accessibility</b>	<ul style="list-style-type: none"> <li>• Limited Infrastructure for food storage</li> <li>• Poor connectivity: impairs both physical and economic access.</li> <li>• Limits the access to various inputs, extension services and marketing opportunity for their produce</li> <li>• Rising food price since 2005/06; food price inflation higher than general inflation. Urban poor are severely affected as they are mostly food buyers</li> <li>• Poorest households allocate almost three quarters of their income to food</li> </ul>	<ul style="list-style-type: none"> <li>• Road density in Nepal 6.39 km/100 sq.km whereas in Himachal Pradesh and Uttarakhand of India, it is 58.5 and 133.6 respectively</li> <li>• Only 30 % of the population has access to all weather roads and more than 60% of the road infrastructure is located in the Terai.</li> <li>• High price of food in Kathmandu and high hills</li> </ul>
<b>Absorption and Utilization</b>	<ul style="list-style-type: none"> <li>• Low dietary diversity</li> <li>• Inadequate attention to utilization of minor crops</li> <li>• Social, Geographical and Temporal variation in terms of consumption behaviors and health indicators</li> <li>• Low awareness on food safety</li> </ul>	<ul style="list-style-type: none"> <li>• 40-60% of the population unable to meet the minimum daily per capita intake of 2,144 kcal and about 49% of &lt;5 years old children are stunted, 13% wasted and 39% underweight</li> <li>• About 51% of women suffer from anemia in FWR against 31 % in ER</li> </ul>

Stability	<ul style="list-style-type: none"> <li>• Changing consumption behavior (fast foods, sedentary life style, sugars and fats consumption contributing to obesity and diabetes)</li> <li>• Assessment of food security based only on cereal production and availability</li> <li>• Agriculture becoming more volatile</li> <li>• Poorer households more vulnerable and low resilience power</li> <li>• Agriculture labor migration</li> <li>• All weather road vs fair weather road</li> <li>• Weak preparedness against disaster</li> </ul>	<ul style="list-style-type: none"> <li>• Vulnerable communities such as Dalits, Adivasi, Janajatis and ex-bonded laborers often struggle to access sufficient food.</li> <li>• Recent report on pesticide use survey by DFTQC showed high pesticide residues (urban, peri-urban)</li> <li>• Climate change implications on agriculture increasingly visible</li> <li>• Recent flood in eastern region in 2008 had implication in agriculture production and the livelihood of people</li> <li>• Youth migration to middle east countries often motivated by political instability</li> </ul>
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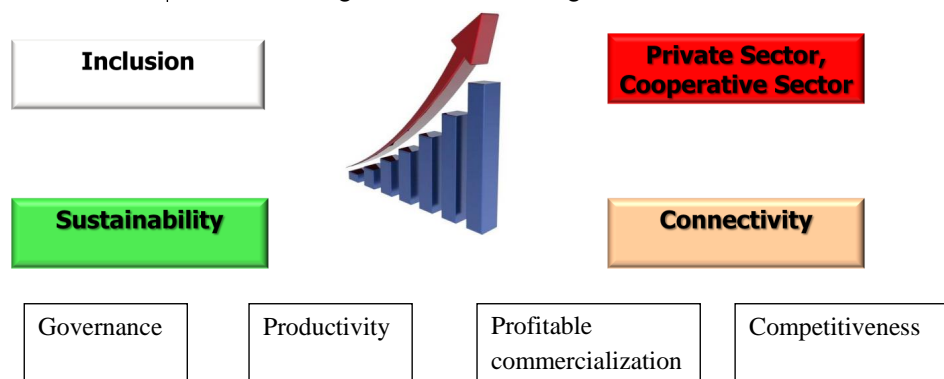
#### Food and Nutrition Security: consumers' coping strategy (ADS Analysis)

- ▶ Nepalese households' income spent on food: 67%
- ▶ Common coping strategies
  - Relying on less preferred foods (67 per cent)
  - Reducing meal portions (29 per cent)
  - Reducing spending on non-food items (26 per cent),
  - Reduced spending on food/ borrowing money for food purchasing (14 per cent).

During the high food price crisis in 2008, about 12 percent of the households skipped food for a day.



1. Food and Nutrition Security
2. Poverty Reduction
3. Agricultural Trade Competitiveness
4. Higher and Equitable Income
5. Farmer's Rights ensured and strengthened



**Food and Nutrition Security: Indicators and Targets**

Vision Component	Indicators	Situation 2010	Target Short Term (5 years)	Target Medium Term (10 years)	Target Long Term (20 years)
Food and Nutrition Security	Food Poverty	24%	16%	11%	5%
	Nutrition	41.5% stunting; 31.1% underweight; 13.7% wasting; 18% women with low BMI	29% stunting; 20% underweight; 5% wasting; 15% women with low BMI	20% stunting; 13% underweight; 2% wasting; 13% women with low BMI	8% stunting; 5% underweight; 1% wasting; 5% women with low BMI

## Priorities of the ADS

### Governance

- Credibility, Coordination, Implementation Support, Integrated planning, GESI-GI, Participation, Capacity enhancement, FNS, PBMS

### Productivity

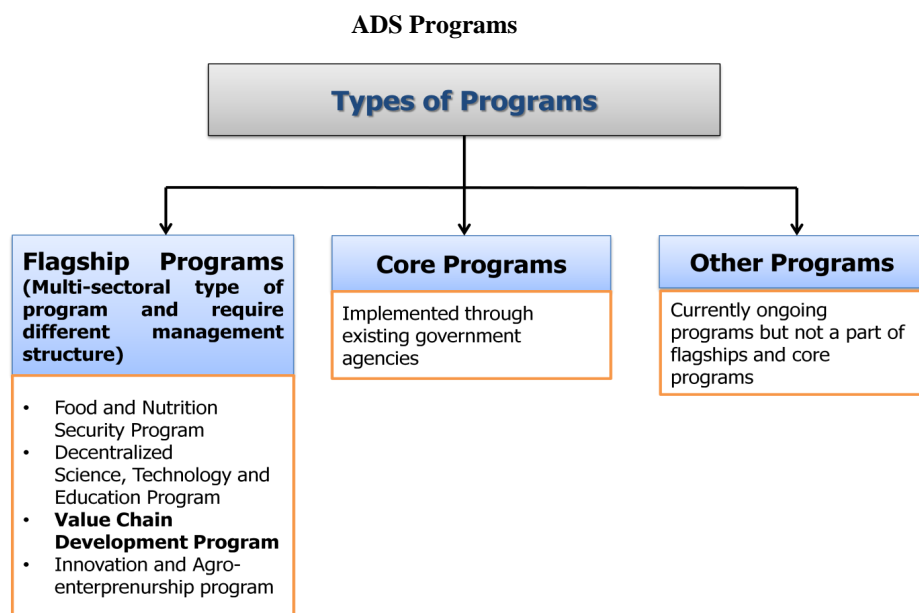
- Decentralized R-E and strengthened education system, REE Integration and Responsiveness, Inputs management, Resilience to CC, sustainable agri and forestry practices

### Profitable Commercialization

- Contractual arrangement, National Value Chain Programs based on M4P approach, Value Chain Infrastructure and Investment Climate, Market information and intelligence

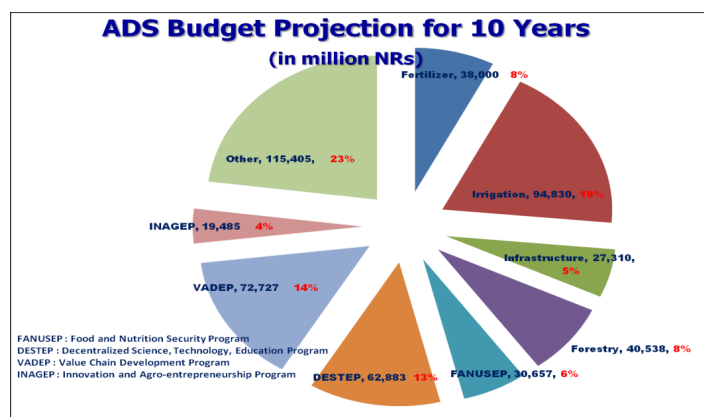
### Competitiveness

- Market infrastructure, Innovation, Export Orientation on High-value Products, Food safety and quality



- ▶ Aims at improving food and nutrition security of the most disadvantaged groups.
- ▶ Consist of three sub-programs
  - Agriculture and Food Security Project (AFSP),
  - Food and Nutrition Security Plan of Action (FNSP),
  - National food and nutrition security programs.
- ▶ Align with the Multi-sector Nutrition Plan (MSNP)

Promote interventions that improve productivity, livelihoods, and nutritional practices of targeted beneficiaries including pregnant and lactating women farmers.



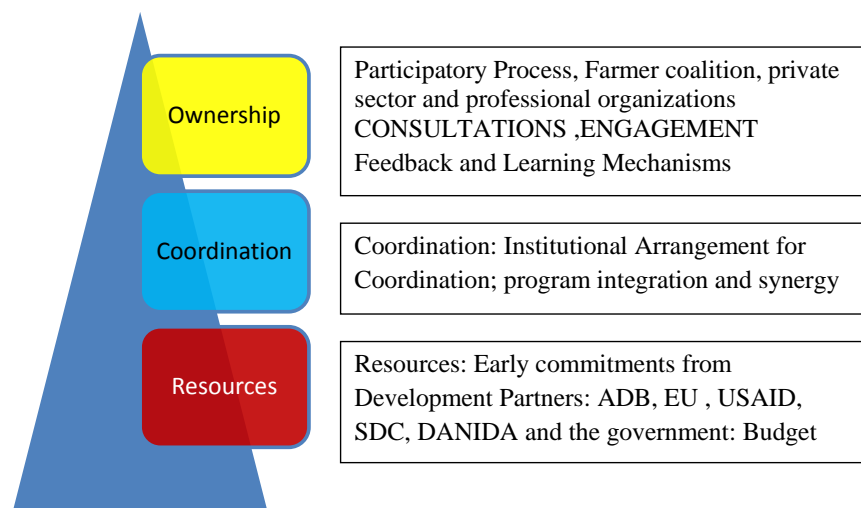
**Food and Nutrition Security: Flagship Program**

**Cost of the ADS (10 Years)**

Contributions	USD million	Rs billion	Rs billion/year	Percent
GoN/Donors	4,683	444.9	44.5	89
Private/Community	600	57	5.7	11
<b>Total</b>	<b>5,282</b>	<b>501.8</b>	<b>50.2</b>	<b>100</b>

Flagship Programs = 37 percent  
Core Programs = 40 percent  
Other programs = 23 percent

### Pre-requisite for Successful implementation of ADS



### COMMENTS

#### 1) Comments by Tej bd. subedi

Regarding the review on the paper entitled Nepal "Food Crisis Response Program Status and Achievements", Mr. Tej bd. subedi stressed food crisis response was very effective. Especially use of improve seed has significant contribution on crop production. Seed processing and storage centre are not in complete operating condition. So some programs should need in future to get established. In overall the project reduce food insecurity on an average 2-3 months in remote districts.

#### 2) Comments by Suresh Gautam

Regarding the review on the paper entitled "Social Safety Nets Project – AF Seed Sub Component-2 Progress & Achievements". Mr. Suresh Gautam stressed on one side productivity of major cereals crop is not increased since few years in another side produced cereals grain are not distributed in

equality due to the geological condition of Nepal. Most the varieties develop by Nepal agriculture research council are not high yielding. Some of the varieties are very prone to the diseases but still they are under cultivation. Adequate foundation supplement is inefficient in NARC side. There is no more progress on hybrid seed production of rice and maize so farmers depended on either India or china.

#### 1) Comments by Dila ram Bhandari

Regarding the review on the paper entitled " Food Security and Agriculture Development Strategy (ADS): A review" Mr. Bhandari started with a story saying that if a man cannot get food for 12 hrs then he will be hungry, if he cannot get food for 24 hrs he will be angry, if he cannot get food for 36 hrs he will be silent and finally if he will not get any food for 48 hrs he will be complied to robbery.

So food security is urgent need. At present food and nutrition security are burning issues. Household food deficiency due to low agricultural productivity, limited livelihood opportunities, inefficient food distribution system, weak market linkage, poor infrastructure and lack of awareness among general public about healthy food habit are some of the development challenges in Nepal. Within the country western Nepal suffer more from poverty and hunger with 37% of the people living below the poverty line compared to the national average of 25.16%. Similarly, productivity of major crops is significantly lower than the national average which is already among the lowest in South Asia.

Paddy, maize, wheat, barley, millet are the major crops of Nepal. Why not potato? He said if food habit is not changed by us after ten years there is so much deficit of rice. He relates this with previous program of government like in 1998 Block Production Program focus on production. During the decades of 1990 to 2000 all the programs were focused on marketing and production part was down. So at present marketing and production should go side by side.

## **Remarks by chief guest, Secretary Ministry of Agriculture and Development**

### **"Food Security: Challenges and Management"**

Dear Participants,  
Ladies and Gentlemen

I am very pleased to be with you to discuss on the very pertinent challenge of human kind that is impacting every corner of the society irrespective of its developmental stage. Yes, we are talking and dealing about Food and Nutrition Security. Food and Nutrition security is a multi-dimensional and dynamic concept being widely pursued at multiple levels through research and policy interventions.

In 1996, World Food Summit adopted a complex definition of it, which states "Food security, at the individual, household, national, regional and global levels is achieved when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The definition presents the roadmap for analysis and management of challenges related to food and nutrition security. It is continually being refined as we understand more about the nature of our problems and food and nutrition system.

The continuing evolution of food security as a dynamic concept in public policy sphere has reflected the complexities associated with its management. Essentially, it is a phenomenon that impacts at individual level but interventions are required at every level of institutional hierarchies including individuals, family, community, society, nation and the globe.

The more we understand the dynamics and find the pathways to deal with the challenges of food and nutrition security, the newer challenges are hitting the road. When the food availability was the concern, science gave the society a new solution in the form of green revolution. Although green revolution significantly increased the level of production, it could not guarantee the people with limited resources and capability an access to needed amount of food. Equity and redistribution became the policy priority to cope with the emerging challenge. We understood that cultural norms and values played key role in achieving food and

nutrition security at household and societal levels. As a matter of fact, food and nutrition security was realized as a means to an end of human security.

In the later stage, we realized a shift in focus of food security from sufficiency to safety which brought nutritional perspective into it. We find and understand that policies and institutions can play immense role to provide sufficient and safe food. But it is also the individual who needs to make a conscious and judicious choice and use of food so that a healthy state can be achieved. In this juncture, scope of food security crosses the border of agricultural production and distribution and demands for social interventions including health, education, sanitation, availability of water etc.

Now, we are very clear that carefully chosen course of actions, synergistic planning and concerted implementation at all these levels are required to achieve the ideal state of food and nutrition security. Variability and uncertainty looming around us in the form of economic and climatic shocks further complicates the mission of achieving food and nutrition security. Least developed countries like Nepal are more vulnerable to these uncertainties and shocks. Therefore, we need better preparedness, more commitment and resilience to cope with the challenges of securing the right of our citizen to food security at individual level and realize food sovereignty at national level.

From policy perspective, we have explicit policies to guide us to the direction of food and nutrition security. We, at the Ministry of Agricultural Development, have now adopted a strategy of integrating food and nutrition in our developmental objective. We have institutions to implement the policies. The need for today is sharing our best examples, putting people in the centre stage and collaborating to implement the best programs efficiently and effectively.

Therefore, I would like to remind you all that food and nutrition security is in forefront of our national agriculture priority. I want to see this reflected in your programs.

With this note, I would like to thank you all for sharing and participating here. I wish for the success of the event.

Thank you.

## Discussion

### List of participants in discussion

S.No.	Name of participants	Designation
1	Mr. Durga Dawadi	Soil Management Directorate
2	Mr. Dilli Ram Sharma	Program Director, PPD
3	Mr. Kamal kanta Jha	Program Director, ADP Janakapur
4	Dr. Tek Bd. Gurung	NARC
5	Mr. Kalas Ram Chaudhary	Senior Agriculture Economist, MoAD
6	Mr. Sujana Dhungel	AEO, DOA Hariharbhawan
7	Mr. Lal Kumar Shrestha	Agriculture Economist, MoAD
8	Mr. Sher Bahadur Dhungana	National Vigilance Centre
9	Dr. Hari Bahadur KC	Sr. Plant Protection Officer, MoAD
10	Ms. Naina Dhakal	Sr. Agri. Economist
11	Mr. Hasta Bd. Bista	Senior Agriculture Economist, MoAD

### Questions, suggestions and issues raised in the discussion

#### 1) Durga Dawadi

His suggestion was about the first paper and he said that, food crisis response program implemented districts had supported for transportation of chemical fertilizer but not for organic fertilizer. So in coming years it would be better to say fertilizer transportation rather than chemical fertilizer transportation.

#### 2) Dilli Ram Sharma

Mr. Sharma said that establishment of 38 seed processing and store house in different districts is a beauty of food crisis response program but the question is about operating condition of the store house.

Regarding to the third paper, Mr. Dilli Ram Sharma concerned about insecurity is increasing day by day and even in terai districts too. He added hunger index is in reducing rate in some of the terai district, if so can i know how many districts have hunger index below ten?

On the behalf of IWRMP's seed processing and store house Laxman Prasad paudel said almost 50 % processing and store house are in good operating condition, we have some good examples like Palungtar Gorkha, they have processed 6 mt. ton of paddy seed stock in their store house. But in some cases processing and store house are not working properly due to lack of electricity, technical knowhow and ineffective farmers group etc.

In the case of hunger index Dr. Rajendra Adhikari said we have analyzed food security on basis of NekSAP report and we don't have exact figure at the moment. But Ministry of Agriculture Development is planning for details study of food security condition, food balance and nutrition.

#### 3) Kamal Kant Jha

His concern was only construction of ware house is not good, production of ample seed is necessary. For the optimum use of established resources production and marketing should go side by side. He also suggested that price of source seed should be increased.

In response of this Mrs. Jwala Bajracharya from the NARC said that source seed is a kind of reliability and government is providing subsidy on source seed. Increasing of price of source seed is not a mandatory of NARC. At present context availability source seed is not a problem but incomplete seed cycle is main problem.

#### 4) Dr. Tek Bdr. Gurung

I am very much thankful for food crisis response program of IWRMP. These types of program are needed for NARC in future too. By this FCRP program unutilized cultivated land of NARC was fully utilized and we are able provide more source seed for farmers.

#### 5) Kalash Ram Chaudhary

His concern was about seed processing and store house. He raised a question about location of seed processing and store house. He asked quantity of seed stored in that store houses in the current year?

Regarding query Laxman Prasad paudel replied that there are altogether 38 seed processing and store house in different hilly districts. Almost fifty percent of them

are involved in seed production and some of them have seed stock. For example seed processing and store house located at Palungtar Gorkha stored 6 mt. of paddy seed of different varieties.

6) Sujan Dhungel

His suggestion was about third paper presented by Dr. Rajendra Adhikari. He said MoAD should clarify that why food insecurity is increasing day by day and effort should be made by government to point out reason behind food insecurity.

Regarding second paper, he exposed view that source seed produced by NARC is enough but at present farmers are still reluctant to use these seeds. So seed production is not an issue at present context but dissemination of source seed, confidence building on the part of farmers on marketing of those seed is very important.

7) Lal Kumar Shrestha

Mr. Shrestha raised a question about BHAKARO SUDHAR and GOTHAR SUDHAR are same or different? In English both are commonly used as cowshed improvement, so common term is used this will be better to understand for everyone.

8) Sher Bd. Dhungana

Mr. Dhungana said that agricultural land is polluted day by day and crops are infested from many pests at present so insist of conservation technologies are needed for sustainable and resilience agriculture. He suggests for utilize human urine for vegetable cultivation. He suggests establishing demonstration plot of human urine at agriculture related offices. Similarly, important minor crops and their consumption practices should be extend at local level to address the food insecurity.

9) Dr. Hari Bahadur KC

He raised question regarding first paper, he said processing and store house are not use effectively. Many programs implemented by projects are duplicated in some cases. He also added that mid terai is more prone to food insecurity, climate change and vulnerability, why programs should not focused on these areas?

In response of this Mrs. Jwala Bajracharya from the NARC replied that NARC is recently release drought resistant rice variety to cope with climate change. Likewise, effectible flood tolerance varieties were also already released.

10) Naina Dhakal

Her query was about second paper and said that we are food secure from food balance sheet but still there is food insecurity why? I think there is rice insecurity rather than food insecurity. To reduce the food insecurity minor Crops like Uwa, Kaguno, Sorghum should be promoted.

Regarding this query Jwala Bajracharya from NARC answered that rice from terai region of Nepal is exported to India a lot but this not in our record. Only calculating import makes food deficiency. In case of minor crops NARC has started selection varieties, and recently NARC find out two best producing varieties of millet.

11) Hasta bd. Bista

He raised question about first paper and said that in first paper there is mismatch between budget, expenditure and progress report.

To this question Laxman Prasad Poudel answered that, there is some mistake and we will correct that in coming fiscal year.

## Conclusion

Food crisis Response program with the loan and grant assistance from the World Bank is being implemented by Government of Nepal (GoN) for a new project on 1) Social Safety Nets and 2) Additional Financing to the Irrigation and Water Resource Management Project in 23 remote mountainous and hilly districts of Nepal.

Targeted sites of project were Eastern, Central, Western, Mid-Western and Far-Western Development Regions, of remote mountainous and hilly districts of Nepal. It aimed to reduce food insecurity to those food deficit districts of project site.

At the end of food crisis response program about 373 ha of the irrigated land is added in the remote districts of project site. It is observed that in the districts of khotang, solukhambhu, okhaldhunga, ramechhap, manang, jajarkot and rukum due to the use of improve seed and fertilizer; production of paddy, wheat, maize, millet and potato was increased by 20 percent. Due to increment of cereal crop production food insecurity was reduced by 3 months in that districts. Thirty eight seed processing and storage plants were established in different districts, seed storage practice and seed self sufficiency was increased.

Seed replacement rate was improved from: 8.7 to 9.5 in paddy; 6.6 to 9.2 in maize and 9.9 to 10.4 in wheat. NARC capacity on seed production improved and strengthened with sustainable seed facilities. Farm and land resources of NARC stations fully utilized. Significant progress in seed production in stations for target crops in quality and quantity achieved. Geographical coverage of on-farm seed production, this helped on seed cycle maintenance. A kind of synergy and linkage developed/resumed at local level from community based seed production program. Introduction of stress tolerant varieties, this is way to adaptation tool to cope with climate change. Enhanced capacity built for communities on seed production and utilization of local resources. Principle knowledge of quality seed and its production established among the communities.

All the participants, commentators came at point that stakeholders should help on seed processing and store house in future too, for the continue the program. From policy perspective, MoAD committed to guide on the direction of food and nutrition security. MoAD, have now adopted a strategy of integrating food and nutrition in our developmental objective. Participants came at the point that today is sharing our best examples, help on collaborating to implement the best programs efficiently and effectively in future.

## ANNEX

### National Review Seminar on Food Crisis Response Program

(30 March, 2014)

#### Program schedule

S.No	Time		Activities	Participants
Anchoring : Kishor Prasad Pant				
1	8:00	8:30	Name entry and breakfast	All participants
2	8:30	8:45	Chairing	
			President	Director general, Suresh Babu Tiwari, DoA
			Chief guest	Secretary , Jaya Mukunda khalal, MoAD
			Participants	Governmental officials, scientists, and researchers from various governmental and nongovernmental institutions of Agriculture such as ministry of Agriculture Development (MoAD), Department of Agriculture (DoA), Nepal Agriculture Research Council (NARC), Representative from ministry of finance (MoF), Representative from National Planning Commission (NPC), Representative from National Vigilance Centre (NVC) etc.
3	8:45	9	Inauguration by watering on flower pot	Secretary , Jaya Mukunda khalal, MoAD
4	9	9:20	Welcome and objective of the program	Laxman Prasad Paudel , Project Coordinator , Iwrmp/DoA
			<b>Paper presentation</b>	
4	9:20	9:40	Food Crisis Response Program Status and Achievements	Laxman Prasad Paudel , Project Coordinator , Iwrmp/DoA
5	9:40	10:00	Social Safety Nets Project – AF Seed Sub Component-2 Progress & Achievements	Jwala Bajracharya, PhD Seed Science & Technology Division NARC
6	10	10:15	<b>Tea break</b>	All participants
	10:15	10:35	Food Security and Agriculture Development Strategy (ADS)	Dr. Rajendra Adhikari, Joint secretary, MoAD.
7	10:35	11:45	Discussion	Participants
8	11:45	11:55	Food Security: Challenges and Management	Secretary , Jaya Mukunda Khalal, MoAD
9	11:55	12:00	Thank you note to all participants	Kishor Prasad Pant, senior agriculture officer, IWRMP
10	12:00	12:15	Closing remarks	President
12	12:15	2:00	Launch	All participants

### List of the participants

S.N.	Name	Position	Office/address
	<b>Ministry of Agricultural Development</b>		
1	Mr. Jaya Mukunda Khanal	Secretary	MoAD
3	Mr. Vijoy Kumar Mallik	Jt. Secretary	MoAD
4	Dr. Rajendra Adhikari	Jt. Secretary	MoAD
5	Dr. Shyam Kishor Sah	Member Secretary	NARDF
6	Mr. Dila Ram Bhandari	Chief	SQCC
7	Mrs Jiwan Prava Lama	chief	DFTQC
8	Mr. Birendra Bd. Hamal	DDG	DoA
9	Mr. Tek Prasad Luitel	Sr. Agri. Economist	MoAD
10	Mr. Mahendra Poudel	Sr. Agri. Economist	MoAD
11	Mr. Binod Bhattarai	Sr. Agri. Officer	MoAD
12	Dr. Hari Bahadur KC	Sr. Plant Protection Officer	MoAD
13	Mr. Hasta Bahadur Bista	Sr. Agri. Economist	MoAD
14	Mr. Tara Kumar Shrestha	Sr. Agri. Economist	MoAD
15	Mr. Ram Babu Adhikari	Sr. Agri. Economist	MoAD
16	Ms. Renu Adhikari	Sr. Agri. Economist	MoAD
17	Mr. Kalash Ram Choudhary	Sr. Agri. Economist	MoAD
18	Mr. Ganga Dhar Aryal	Under Secretary	MoAD
19	Mr. Pralhad Kumar Pudasaini	Under Secretary	MoAD
20	Ms.Naina Dhakal	Sr. Agri. Economist	MoAD
21	Mr.Shiva Nandan Prasad Sah	Project Director	Climate Change MoAD
22	Mr. Keshav Pandey	Under Secretary (law)	MoAD
23	Mr. Mahendra Pant	Agri-extension officer	MoAD
24	Mrs. Bindira Adhikai	Agri. Economist	MoAD
25	Mr. Tilak Ram Chaulagain	Agri. Economist	MoAD
26	Mr. Bholi Prasad Chapagain	Section officer	MoAD
27	Mr. Lal Kumar Shrestha	Agri. Economist	MoAD
	<b>World Bank, Nepal</b>		
28	Ms. Dicsha Dawadi	World Bank	
	<b>Department of Agriculture</b>		
29	Mr. Suresh Babu Tiwari	Officiating DG	DoA
30	Mr. Birendra Bahadur Hamal	DDG	DoA
31	Dr. Hari Babu Tiwari	Program Director	ABPMDD, DOA
32	Mr. Tej Bahadur Subedi	Program Director	Pos. Man. Directorate
33	Ms. Niru Dahal Pande	Program Director	Agri. Ex. Directorate
34	Mr.Dhurga Prasad Dawadi	Chief	DoA
35	Mr. Dilli Ram Sharma	Program Director	DoA
36	Mr. Achyut Prasad Paudel	Under Secretary	DoA
37	Mr.Govinda Barakoti	Sr. plant protection officer	DoA

S.N.	Name	Position	Office/address
38	Mr. Bharat Kandel	Sr. Agri economist	DoA
39	Mr. Hiralal Bhandai	Section officer	DoA
40	Mr. Sujan Dhungel	Agri-ext. officer	DoA
41	Mr. Netra Bd. Bhandari	Sr. agriext. officer	DoA
42	Mr.. Bishnu Kanta Sedhai	Agri. Economist	DoA
	<b>NARC</b>		
43	Dr. Tek Bahadur Gurung	Acting Executive Director	NARC
44	Dr. Jagat Devi Ranjit	Chief, Agronomy Division	NARC
45	Dr. Jwala Bajracharya	Chief, Seed Tec. Division	NARC
	<b>Regional Directors</b>		
46	Mr. Suresh Gautam	Regional Director	RAD Biratnagar
	<b>Projects</b>		
47	Mr. Badri Dahal	Project Director	PACT
48	Mr. Rajendra Bhari	Project Director	HVAP
49	Dr. Amar Shah	Project Director	HIMALI
50	Mr. Kamal Kanta Jha	Program Director	ADP, Janakpur
	<b>IWRMP/DoA</b>		
51	Mr.Laxman Prasad Poudel	Program director	IWRMP
52	Mr. Kishor Prasad Pant	Senior agriculture officer	IWRMP
53	Mr. Chaita Narayan Dangol	Senior agri-engineer	IWRMP
54	Mr. Rajesh Shah	Planning officer	IWRMP
55	Mr. Mukunda Bhusal	Crop development officer	IWRMP
56	Mr. Binod Bhattarai	Account officer	IWRMP
57	Mr. Rishi kesh Jha	Junior technician	IWRMP
58	Mr. Chinta Narayan Khanal	Junior technician	IWRMP
59	Mr. Hari Yadav	Junior technician	IWRMP
60	Mr. Madhav Singh Bista	overseer	IWRMP
	<b>DoI</b>		
61	MR. Krishna Prasad Belbase	Project Director	IWRMP, DoI
62	Mr. Tika Baral	CDE	IWRMP, DoI
	<b>Others Line Agencies</b>		
63	Mr.Amar Raj Khayar	Officiating MD	AIC Ltd.
64	Mr. Nanu Jha	Officiating MD	NSC Ltd.
65	Mr. Sher Bahadur Dhungana		NVC



## Photos

