

# **FOOD SECURITY STRATEGY OF PUNJAB**

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# Concept of Food Security

“Food Security exists 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”.

World Food Summit, Rome 1996.

# What does food security implies

- **Ensuring physical access** — Food can be purchased whenever people want with easy access.
- **Ensuring Economic access**- prices are affordable, or alternatively incomes are enhanced.
- **Ensuring all time availability** — Minimize seasonality in food supply
- **Safe food** — heavy metal contents and contamination are within limits
- **Food for healthy lifestyle** — Balanced diet to meet minimum energy as well as micronutrient requirements.
- **Nutritious food** — Supply of food which meets the local cultural needs

However, food security does not imply food self-sufficiency at the cost of high-income alternatives

## Per capita availability of major foods (from domestic production) in Punjab (2001-08)

Year	Population (million)	Per capita availability (kg/annum)			
		Cereal	Pulses	Vegetables	Sugar
2001	80.16	238	6	45	18
2002	81.60	220	6	44	26
2003	83.07	231	10	43	28
2004	84.56	235	8	42	31
2005	86.09	263	11	42	24
2006	87.55	258	6	41	18
2007	89.04	263	11	40	26
2008	90.55	242	6	40	33

\*Surplus=production-waste or used for seed-requirement

# Role of Punjab in ensuring food supply of other provinces 2006-08

Crop	Production (million t)	Requirement (million t)	Surplus/ Deficit (million t)*
Wheat	17.207	8.839	4.926
Pulses	0.730	0.466	0.118
Rice	3.130	1.091	1.505
Sugar	2.208	1.406	0.802
Vegetable	3.584	4.525	-1.837

\*Surplus=production-waste or used for seed-requirement

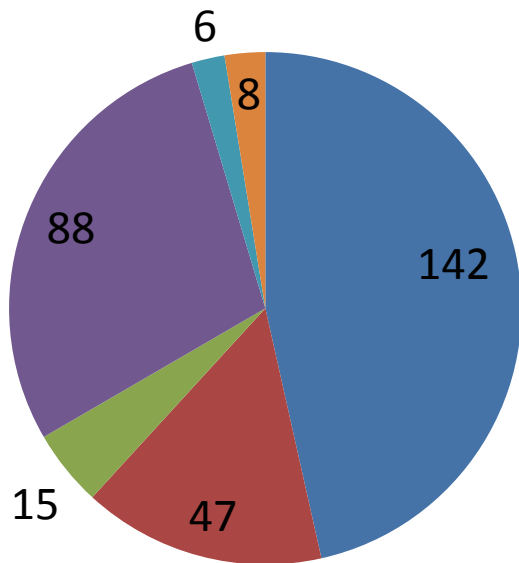
# Change in Surplus Overtime (2001-08)

Crop	Surplus for other province (million t)	
	2001-04	2005-08
Cereals	4.78	6.82
Pulses	0.06	0.12
Sugar	0.82	0.80
Vegetable	-1.53	-1.84

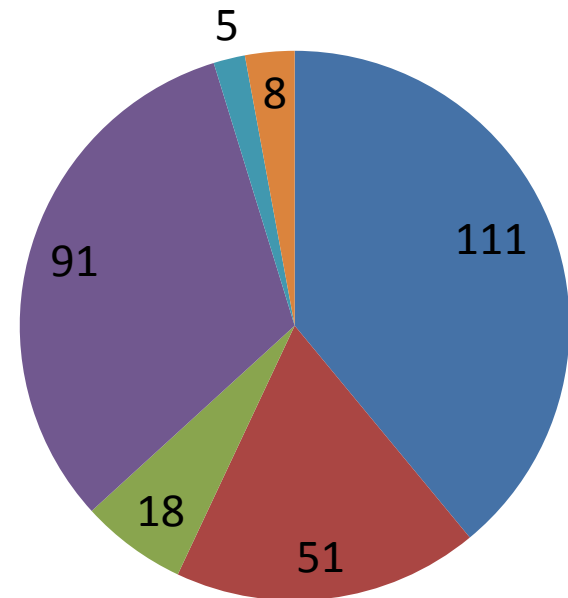
**\*Surplus=production-waste or used for seed-requirement**

# Changing Consumption Pattern

**Kg per annum  
1990-92**



**Kg per annum  
2007-08**



- Cereals
- Vegetables
- Sugar
- Milk, Ghee & Oil
- Pulses
- Meat

# Availability of food across income group

group	Quantities consumption (grams/day)		
	Low income	High income	Overall
Wheat	345.2	330.7	341.1
Other cereals	92.7	94.4	93.2
Pulses	22.3	24.4	22.9
Milk products & fat	288.9	331.3	301.1
Meats	22.1	44.7	28.6
Fruits	38.2	68.5	46.9
Vegetables	129.8	144.4	134
Miscellaneous	79.8	99.3	85.4
Total	1018.9	1137.7	1052.9



# Nutrient Deficiency

Nutrient types	Recommended dietary allowance	Intake	Deficiency (%)
Calories (killo)	2150	2246	0.2
Protein (g)	45	58	0
Calcium (mg)	968.3	892.4	7.8
Iron (mg)	12.2	9.0	26.2
Vitamin A (mg)1	4757.8	1434.7	69.8
Vitamin C (mg)	54.7	45.1	17.6
Vitamin B1(mg)	1.2	0.4	66.7
Vitamin B2(mg)	1.3	0.8	38.5
Niacin (mg)	14.9	4.4	70.5

# Hidden Hunger

- **65% of the young children and 45% of pregnant and lactating women are suffering from anemia**
- **61% males, 72% of breast-feeding females, and 79% pregnant women are consuming less than 70% of the recommended (RDA) of vitamin A**
- **A comparison of National Nutrition Surveys of 1985-87 and 2001-02 clearly shows that micronutrient deficiency are on the rise, especially among children and women**

# Issues of Food Security

- **Serious micronutrient deficiency, reflecting low food quality and imbalance food consumption**
- **Low income groups has poor access to livestock products, fruits and vegetables**
- **Serious annual, seasonal and regional distribution problems resulting in price fluctuation, which seriously affect food security of the poor**
- **Low food quality of milk, meat, and vegetables especially in terms of high heavy metal content and infestation**
- **Lack of processing and value chain**

# Drivers

- **Enhancing factor productivity**
- **Diversification towards high value crops like Fruit, Vegetables & Livestock**
- **Improve marketing and marketing infrastructure**
- **Provide enabling regulatory mechanism**
- **Enable private sector to provide products & services**
- **Seek possibilities of private sector participation in production of public goods**
- **Organize and empower small farmers by providing technical know how and financial assistance**

# Policy Strategy

## Required

- Pro-active to food security crisis  
(systematic crop forecasting mechanism; food security fund to finance import/export of food when crisis is predicted; a powerful body/committee to decide import/export when needed.
- Protect price bands in between import and export parity, rather than announcing one procurement price. The private sector should be allowed to operate freely between these price bands.
- Encourage storage in the private sector to control seasonal price fluctuation of food
- Allow cascating price to encourage storage
- Services such as extension, insemination, land development through bulldozers, etc. handed over to the private sector while public sector providing enabling environment .

## Prevailing

- Reactive to the crisis as and when it happens  
(no price forecasting mechanism, and no financial and political mechanism to handle crisis in advance)
- Single procurement price for each commodity is announced without any economic rational.
- Storage is considered illegal activity by blaming it as “hoarding”
- Constant price across season discourage storage
- Public sector dominate but gradually withdraw through creating a class of service providers

# Policy Strategy

## Required

- Provide safe and quality products at competitive prices
- Cover entire value chain with focus on market and poverty reduction
- Move from subsistence farming to market-oriented and commercial farming
- Increase allocation on output-oriented research from 0.20% to 0.5%, and involve private sector and international organizations in research

## Prevailing

- Prices are capped at the cost of quality risks
- Fragmented production, processing and marketing initiatives
- Subsistence non commercial & low productive for which diversification is being emphasized
- Minimal research allocation mainly on salaries and brick and mortar projects

# INTERVENTIONS

# Goals: Enhancing Food Security

Issue	Interventions	Impacts
Enhancing wheat production	<ul style="list-style-type: none"> <li>•Timely sowing</li> <li>•Improve input use efficiency</li> <li>•Provision of quality seed</li> <li>•Introduce good management practices</li> <li>•Develop short duration and saline tolerant varieties</li> </ul>	<ul style="list-style-type: none"> <li>•Increase wheat productivity by 2% per annum without horizontal expansion.</li> <li>•Improve small farmers food security.</li> </ul>
Enhancing milk production	<ul style="list-style-type: none"> <li>•Dairy cooperative supply chain</li> <li>•Private sector led animal feed industry</li> <li>•Commercial dairy farming</li> <li>•Genetic improvement</li> <li>•R&amp;D for high yielding fodder varieties</li> </ul>	<ul style="list-style-type: none"> <li>•Increase milk production up to 15-20%</li> <li>•Poverty alleviation</li> <li>•Employment generation</li> </ul>
Enhancing meat production	<ul style="list-style-type: none"> <li>•Introduction of beef breeds &amp; improvement of local animals (import of exotic semen)</li> <li>•Promote feed lot fattening system</li> <li>•Save the calf program</li> <li>•Price de-capping</li> <li>•Cattle markets improvement &amp; sale on weight basis</li> <li>•Modernized slaughter houses</li> <li>•Provision of storage facilities</li> <li>•Focus on Cholistan region</li> </ul>	<ul style="list-style-type: none"> <li>•Meat production will be increased up to 15%</li> <li>•More than 6 millions male calves which are being slaughter in the first month of age will be saved</li> <li>•Development of beef breed</li> <li>•Reduce regional disparity</li> </ul>

Rationalize price capping in line with production cost and internal prices



# Goals: Increase farmers income

Issue	Interventions	Impacts
Enhancing cotton production	<ul style="list-style-type: none"> <li>•Review of cotton crop situation in fortnight CCMg meetings</li> <li>•Monument of CLCV</li> <li>•Control of Bollworm through adoption of Bt cotton through proper regulatory mechanism</li> <li>•Introduction of hybrid</li> <li>•Availability of quality pesticide</li> <li>•Timely sowing through educating farmers on cultivation of crop based on meteorology data</li> </ul>	<ul style="list-style-type: none"> <li>•Increase in cotton production from 8-10.5 million bales in short-run, to 15millions bales if CLCV is effectively controlled in the medium term, and 20 million bales if Bt-cotton varieties are effectively introduce.</li> <li>•Improve Income in the south which will reduce regional disparity</li> <li>•Generate employment in rural and urban areas by encouraging textile industry.</li> </ul>
Enhancing maize production	<p>Productivity enhancement through introduction of local hybrid seed production in collaboration of local hybrid seed production in collaboration with private sector.</p> <p>Good management practices through extension</p> <p>Availability of credit by introducing One Window Operation</p>	Increase in production of maize from 2.5 to 2.7 Million ton

Implementation of bio-fafety laws introduce Breeders' Right Act Revamp Seed Act.

# Goals: Increase income and exportable surplus

Issues	Interventions	Impacts
Enhancing Rice Productivity	<ul style="list-style-type: none"> <li>•Increase plant population</li> <li>•Water saving technologies</li> <li>•Salinity tolerant varieties</li> <li>•Diversify quality-rice production</li> <li>•Management of Bacterial Leaf Blight (BLB)</li> </ul>	<ul style="list-style-type: none"> <li>•Increase in rice production from 3.0 to 4.0 million ton on sustainable basis.</li> <li>•Enhance farmers income</li> </ul>
Enhance fruit production and productivity	<ul style="list-style-type: none"> <li>•Control of fruit fly</li> <li>•Introduction of good management practices (ICM)</li> <li>•Extension in shelf-life</li> <li>•Availability of certified nursery plants</li> <li>•Develop value chain by engaging modern supermarkets (Carrefour, Metro, etc.)</li> <li>•Transform supply-based to demand-oriented production.</li> </ul> <p>Establish food certification system.</p>	<ul style="list-style-type: none"> <li>•Increase in fruit export from US\$70 to US\$300 M in five years term, and US\$800 M in ten years.</li> <li>•Provide jobs in rural areas</li> <li>•Improve regional equity</li> </ul>
Enhance vegetable production and productivity	<ul style="list-style-type: none"> <li>•Enhance productivity</li> <li>•Improve seed quality</li> <li>•Extend availability season(growing off season)</li> <li>•Reduce pesticide use</li> <li>•Transform supply-base to demand-oriented production.</li> </ul> <p>Establish food certification system.</p>	<ul style="list-style-type: none"> <li>•Increase in vegetable export from almost nil to US\$50 M in short-run, US\$100 M in medium term, and US\$300 M in long-term. Provide jobs in rural areas</li> <li>•Improve regional equity</li> </ul>