

# SALIENT FEATURES OF MASTER PLAN FOR HORTICULTURE DEVELOPMENT 1990-2010 (MPHD)

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## INTRODUCTION

The MPHD was commissioned by ADB and was carried out jointly by PACMAR, USA and East Consults, Nepal for MOA, HMG/N in 1990. To prepare the plan, the consultants inventoried the biophysical and economic resources that affect horticultural development in Nepal and examined how the institutional framework of Nepal can help or hinder horticultural development. The MPHD was expected to serve as the framework for the development. The MPHD was expected to serve as the framework for the short-, medium-, and long-term development of horticulture sub-sector in Nepal.

## OBJECTIVES

1. To meet projected increases in demand for horticultural development
2. To meet people's basic nutritional needs provided by horticultural crops
3. To increase farmers' employment opportunities and incomes
4. To reduce environmental degradation in the hills
5. To reduce horticultural imports and expenditures of foreign exchange
6. To increase horticultural exports and earning of foreign exchange

## SCOPE

1. To review development strategy, policies, plans, priorities and projects.
2. To review available data and information on sustainable production of horticultural crops.
3. To classify different agro-ecological zones for horticultural development.
4. To estimate domestic and export demands for major fruits, vegetables and spices for 20 years.
5. To determine planting and production targets for major fruits, vegetables and spices for 20 years corresponding to 5-yr Development Plans.
6. To identify priority projects of horticultural crops.
7. To provide on the job training for staff of planning unit of MOA responsible for horticulture sub-sector to update and operate the identified projects.

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## CRITERIA USED TO SELECT THE PROGRAMS AND PROJECTS

The MPHD considered the following criteria for the selection of programmes and projects for implementation.

- The programme or project must improve the nutrition of subsistence families or represent a commercial FIRR and must be a net saver or earner of foreign exchange,
- The programme or project must provide appropriate varieties or disease-free, improved seeds or seedlings, and
- The programme or projects must use the private sector to deliver information and inputs, or, in the case of the Government, must use its existing delivery effectively.

### SALIENT FEATURES

MPHD examined the present development strategies and policies of HMG for the Horticultural Subsector, identified suitable horticulture production pockets, estimated domestic and export demand for the 20-year plan period, determined planting and production targets for major fruit, vegetable, and spice crops, and identified high priority projects, their investment requirements, and their likely social, economic, and environmental impacts. The salient features of their exercise area as follows.

1. Final Draft was in nine volumes namely main report with maps, annexes, agro-ecological classification for horticulture development, fruit development, vegetable and spice development, transportation network, post-harvest handling, storage and processing of horticultural crops, demand and market analysis and horticulture related administration and institutions.
2. Development of 4 agro-ecological zones namely tropical, sub-tropical, warm temperate and cool temperate and 15 horticultural planning units of Nepal.
3. Possible to determine the potential arable area in each agro-ecological zone in each district of Nepal

**Table 1: arable land for horticultural crops in Nepal**

Agro-ecological Zones	Arable Land (106ha)	% Total	Main Horticultural Crops
Tropical	1.50	31	Mango, Banana, Pineapple, All
	1.40	29	Vegetable, winter Potatoes and spices
Sub-tropical	0.91	20	Citrus, Most vegetables
Warm-temperate	0.61	12	Peach, Plum, Pear, Most vegetables
Cool-temperate	0.07	1.5	Apple, Walnut, Cole crops, Seed potatoes
	0.07	1.5	
	0.24	5	
<b>Total</b>	<b>4.80</b>	<b>100</b>	

4. MPHD is a demand-driven and not target oriented plan. It has estimated the per capita consumption of fruits, vegetables and spices based on DFAMS data and NRB Multipurpose Household Survey, 1988 as follows.

**Table 2: Demand \* for Horticultural Products (MT)**

Description	Year	
	1990	2010
<b>Commercial</b>		
• Fruits	31,709	265,301
• Vegetables	178,273	848,876
• Potatoes	109,717	509,272
• Spicer	21,969	111,740
<b>Sub-total</b>	<b>341,689</b>	<b>1,735,192</b>
<b>Subsistence</b>		
• Fruits	95,496	149,477
• Vegetables	434,315	856,370
• Potatoes	369,455	596,370
• Spicer	62,150	80,591
<b>Sub-total</b>	<b>961,716</b>	<b>1,683,047</b>
<b>Total</b>	<b>1,303,403</b>	<b>3,418,239</b>

\* Including domestic, institutional, processing and export reqm.

5. Potential horticulture pocket areas can be identified and verified in each agro-ecological zone by using the maps in which farm road-heads within one days walking distance are clearly mentioned.
6. Because of lack of reliable baseline data on fruits, vegetables, potato and spices, MPHD used per capita consumption data to develop required figures for production of each crop for the plan period.
7. Principal fruit crops were identified as mango, banana, pineapple, guava, citrus and apple based on fruit crop screening methodology. Similarly, main vegetables were identified as leafy greens, onion, radish, eggplant, gourd, tomato, pumpkin, cauliflower, cabbage and potato and the main spice includes ginger, turmeric, chilli, garlic, cumin and pepper. (Large cardamom is missing).
8. Area and production of each of these crops have been ascertained in each horticulture-planning unit to meet the expected demands.
9. The yield build-up and the details of operations, inputs and labour requirement for major fruit crops have been worked out in detail. This will help develop norms for project expenditures and evaluation.
10. The MPHD discusses strategies for increasing both the commercial and subsistence productions of fruits, vegetables, potato and spices to meet the increasing demands. Strategies for fruit development include identification of proper rootstocks and superior cultivars, production of disease-free sapling, using tissue culture, development of appropriate technologies which address the main production constraints, control of important insects and diseases and development of post-harvest technologies.

11. Priority projects identified are:

- a. Support project for NCDP based on production of disease-free sapling production using tissue culture.
- b. Dry fruit and nut production
- c. Pear variety improvement for export
- d. Certification and improvement of local banana
- e. Feasibility study to privatise tissue culture program
- f. Grape production
- g. Joint venture on fruit production, processing and marketing
- h. Pilot project for hybrid vegetable seed production
- i. Feasibility study for spice production, processing and marketing
- j. Marketing of off-season vegetables
- k. Storage and processing facilities for horticultural commodities
- l. Brandy distillation complex development
- m. Training food scientist and engineer
- n. Market information project