

Himachal Pradesh Economic Survey 2020 - 21



Important Highlights



Part III

Chapter 7: Agriculture, Horticulture and
Allied Services



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CHAPTER 7: AGRICULTURE, HORTICULTURE AND ALLIED SERVICES

Agriculture is the main occupation of the people of Himachal Pradesh and has an important place in the economy of the State. Himachal Pradesh is the only State in the country where **89.96 per cent** of the population (Census 2011) lives in rural areas. Agriculture/ Horticulture provide direct employment to about **70 per cent** of total workers of the State.

Agriculture is an important source of State Income (GSDP). About **13.62 per cent** of the total GSDP comes from agriculture and its allied sectors. Out of the total geographical area of State (**55.67 lakh hectare**) the area of operational holdings is about **9.44 lakh**

hectares and is operated by **9.97 lakh** farmers with an average holding size is about **0.95 hectare**.

Distribution of land holdings according to **2015-16**

Agricultural Census shows that **88.86 per cent** of the total holdings belongs to small and marginal farmers. About **10.84 per cent** of holdings are owned by semi medium and medium farmers and only **0.30 per cent** by large farmers. About **80 per cent** of the total cultivated area in the State is rainfed

Important Cereal Crops: Rice, Wheat and Maize

Important Oilseed Crops (Rabi Season):

Groundnut, Soyabean and Sunflower in Kharif and Rapeseed / Mustard and Toria.

Important Pulses: Urd, Bean, Moong, Rajmash, Gram and Lentil.

Agro-Climatic Regions of State:

- Sub-Tropical, sub-mountain and low hills.
- Sub Temperate, Sub humid mid hills.
- Wet Temperate high hills.
- Dry Temperate high hills and cold deserts.

Distribution of Land Holdings

Size of Holdings (hect.)	Category (Farmers)	No. of Holdings (lakh)	Area (lakh hect.)	Av. size of Holding (hect.)
Below 1.0	Marginal	7.12 (71.41%)	2.86 (30.30%)	0.40
1.0-2.0	Small	1.74 (17.45%)	2.42 (25.63%)	1.39
2.0-4.0	Semi Medium	0.82 (8.23%)	2.23 (23.62%)	2.72
4.0-10.0	Medium	0.26 (2.61%)	1.46 (15.47%)	5.62
10.0-Above	Large	0.03 (0.30%)	0.47 (4.98%)	15.67
	Total	9.97	9.44	0.95

RAINFALL:

- The State receives an average rainfall of **1,251 mm**. **Kangra** district gets the highest rainfall followed by **Chamba, Sirmaur and Mandi**.
- **In 2020**, for Himachal as a whole, the total rainfall during the entire monsoon season was 26 per cent below the annual normal.

**Monsoon Season Rainfall
(June- September, 2020)**

District	Actual (mm)	Normal (mm)	Excess or Deficient	
			(mm)	%age
Bilaspur	957	874	83	9
Chamba	477	1052	(-)574	(-)55
Hamirpur	819	1019	(-)200	(-)20
Kangra	1219	1596	(-)377	(-)24
Kinnaur	115	252	(-)137	(-) 54
Kullu	528	504	24	5
L/Spiti	106	395	(-)289	(-) 73
Mandi	816	1062	(-)246	(-)23
Shimla	459	644	(-)185	(-)29
Sirmaur	854	1350	(-)496	(-)37
Solan	789	983	(-)202	(-)21
Una	741	820	(-)79	(-)10
Average	567	764	(-)196	(-)26

**TABLE 7.3
Post Monsoon Season Rainfall Data
for the period from
(October-December,2020)**

District	Actual (mm)	Normal (mm)	Excess or Deficient	
			(mm)	%age
Bilaspur	75	65	11	16
Chamba	98	132	(-)34	(-)26
Hamirpur	52	69	(-)17	(-)25
Kangra	64	85	(-)21	(-)25
Kinnaur	54	75	(-)21	(-)28
Kullu	121	89	32	36
L/Spiti	95	114	(-)19	(-)16
Mandi	53	64	(-)11	(-)17
Shimla	70	79	(-)9	(-)11
Sirmaur	63	64	0	0
Solan	65	70	(-)5	(-)7
Una	47	53	(-)6	(-)12
Average	78	92	(-)14	(-)15

AGRICULTURE IN HIMACHAL PRADESH:

Kharif production: Kharif production mainly depends upon the behaviour of south west monsoon, as about 80 per cent of the total cultivated area is rainfed. The sowing of Kharif crops starts from the end of April and goes up to the mid of June. An area of **384.26 thousand hectare** was sown under different Kharif crops.

Rabi Production: During Rabi 2019-20, rain received was excess by 33% per cent in the post monsoon season rainfall for the period October to December 2019 the total production of 7.53 lakh M.T. has been achieved.

Like rest of the country, Himachal too has almost reached a plateau in so far as cultivable land is concerned. Hence, emphasis has to be on increasing productivity levels besides diversification towards high value crops. Due to an increasing shift towards commercial crops, the area under food-grains production is gradually declining. In 1997-98, this area was 853.88 thousand hectares which has declined to 735.04 thousand hectares in 2019-20.

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TABLE 7.4
Foodgrains Production

(in '000 MT)

Crop	2017-18	2018-19	2019-20	2020-21 (Tentative)
I. Foodgrains				
Rice	141.37	146.68	143.66	135.20
Maize	750.91	771.11	729.73	762.00
Ragi	1.92	1.82	2.06	2.55
Millets	3.36	4.12	4.77	4.50
Wheat	598.32	682.63	627.96	672.00
Barley	28.19	32.08	30.83	35.30
Gram	0.37	0.40	0.42	0.45
Pulses	56.99	53.60	54.80	62.72
Foodgrains	1581.42	1692.44	1594.23	1674.72
II. Commercial Crops				
Potato	198.66	186.80	196.71	196.30
Vegetables	1691.56	1722.14	1860.67	1658.00
Ginger(Green)	33.70	33.74	33.99	34.40

Table 7.5
Food grains Area and Production

Year	Area (`000 hect.)	Production (`000 M.T.)	Production per hectare (M.T.)
2017-18	748.72	1581.42	2.11
2018-19	732.62	1692.44	2.31
2019-20	735.04	1594.23	2.17
2020-21(Target)	763.40	1674.72	2.19

PROGRAMMES LAUNCHED BY HIMACHAL PRADESH GOVERNMENT TO BOOST AGRICULTURE:

1. High Yielding Varieties programme (H.Y.V.P):

- To increase production of foodgrains, emphasis has been laid on distribution of seeds of high yielding varieties to the farmers. Area brought under high yielding varieties of principal crops viz. Maize, Paddy and Wheat:

Area Brought Under High Yielding Varieties

(`000 hect.)

Year	Maize	Paddy	Wheat
2018-19	280.69	74.32	343.62
2019-20	205.00	62.00	330.00
2020-21 (Target)	205.00	62.00	330.00

- There are 20 Seed Multiplication Farms from where foundation seed is distributed to registered farmers. In addition, there are 3 Vegetable Development Stations, 12 Potato Development Stations and 1 Ginger Development Station in the State

2. Plant Protection Programme:

- To increase the production of crops, adoption of plant protection measures is of paramount importance. During each season, campaigns are organised to fight the menace of **crop disease, insects and pest etc.**
- The scheduled castes/ scheduled tribes, farmers of backward areas and small and marginal farmers are provided plant protection chemicals and equipments at **50 per cent cost.**

3. Soil Testing Programme:

- To maintain fertility of the soil, soil samples are collected from the farmers' fields and analysed in the soil testing laboratories. Soil testing laboratories have been established in all the districts (except **Lahaul and Spiti**), and four mobile soil testing vans/labs out of which one exclusively for the tribal areas is in operation for testing the soil samples at site. At present 11 soil testing labs have been strengthened, 9 mobile labs and 47 mini labs have also been setup by the department. The Government of India has launched a new scheme based on which the sample of soil is drawn on GPS basis. During the year 2019-20, 19,872 soil samples were analysed.

4. Prakritik Kheti Khushal Kisan Yojna under Zero Budget Natural farming:

- The State Government has launched the "Prakritik Kheti Khushal Kisan Yojna" in the State. Government intends to encourage "**Zero Budget Natural Farming**", so as to bring down the cost of cultivation. The use of chemical fertilizers and chemical pesticides is being discouraged. The budget provided for pesticides/ insecticides to the department of Agriculture and Horticulture will be used for providing bio-pesticides and bioinsecticides.

Objectives

- Promotes climate smart agriculture.
- Reduces cost of cultivation.
- Improves soil health and biodiversity.
- Discourages use of agro-chemicals like fertilizers and pesticides.
- Prepare POPs for different crops.
- Encourages natural farming and eco-friendly approaches.

Incentives for farmers

- 80% assistance for lining of cattle sheds
- 75% assistance for providing plastic drums to farmers. Maximum of three drums will be provided per farmer.
- 75% assistance for physical and biological pest control measures
- Third party certification process for efficient marketing of ZBNF produce.
- One time assistance of INR 50,000/ shop spread over three years for opening PrakritikKheti Sansadhan Bhandar shops at village level for supply of ZBNF inputs.

5. Fertilizer Consumption and Subsidy:

- To promote balanced use of chemical fertilizers, a subsidy of ₹1,000 per MT on complex fertilizers has been allowed. Use of water-soluble fertilizers is promoted in a big way for which subsidy has been allowed to an extent of 25 per cent of cost. 51,500 MT of fertilizers will be distributed during 2020-21.

6. Pradhan Mantri Fasal Bima Yojna (PMFBY):

- This scheme was launched in the State from Kharif, 2016 season. In this insurance scheme, Maize and Paddy crops have been covered during Kharif season and Wheat & Barley crop during Rabi

season. The different stages of risk leading to crop loss due to delayed sowing, post-harvest losses, localized calamities and losses to standing crops (from sowing to harvest) have been covered under this new scheme. From kharif 2020 onwards the scheme is now optional for both the Loanee and non-loanee farmers. A budget provision of ₹7.00 crore has been made for the year 2020-21 which is utilized for the payment of State share of premium subsidy.

7. Seed Certification Programme:

- Agro-climatic conditions in the State are quite conducive for seed production. To maintain the quality of the seeds and also ensure higher prices of seeds to the growers, seed certification programme has been given due emphasis. **Himachal Pradesh State Seed Certification Agency** registers growers in different parts of the State for seed production and certification of their produce.

8. Agriculture Marketing:

- For the regulation of agricultural produce in the State, **Himachal Pradesh Agricultural/ Horticulture Produce Marketing Act, 2005** has been enforced.
- Under the Act, Himachal Pradesh Marketing Board has been established. Himachal Pradesh has been divided into ten notified market areas; its main objective is to safeguard the interest of the farming community.
- The regulated markets established in different parts of the State are providing useful services to the farmers. A modernised market complex at Solan is functional for marketing of agricultural produce, besides construction of market yards in different area. At present 10 market committees are functioning, and 58 markets have been made functional. Market information is being disseminated through different media i.e., **AIR, Doordarshan, print media and internet to farmers.**

9. Tea Development:

- Total area under tea is **2,314.71 hectares** with a production level of **10.02 lakh Kgs.** achieved in 2019-20. Small and Marginal farmers are **80** provided agriculture inputs on **50** per cent subsidy.

10. Soil and Water Conservation:

- Two soil and water conservation schemes are being implemented under State sector. The schemes are: - i) Soil Conservation Works. ii) Water Conservation and Development. Agriculture department has prepared a plan to harvest rainwater by constructing tanks, ponds, check-dams and storage structures. Besides this, low lifting water devices and efficient irrigation system through sprinklers are also being popularized.

11. Mukhya Mantri Nutan Polyhouse Yojna:

- To achieve faster and more inclusive growth in agriculture sector, Government of Himachal Pradesh has started "Mukhya Mantri Nutan Polyhouse Yojna covering an area of 100 Hectare in the State and 5,000 polyhouses are being constructed under this scheme. This scheme will be implemented in two phases. In first phase it will be implemented from 2021 to 2022-23 and 2,522 polyhouses will be constructed with an outlay of ₹78.57 crore. Under this project 85% assistance for setting up of polyhouses is provided.

12. Rashtriya Krishi Vikas Yojna (RKVY):

Rashtriya Krishi Vikas Yojna – RAFTAAR was initiated in 2007 as an umbrella scheme for ensuring holistic development of agriculture and allied sector. The Projects worth ₹27.02 crore have been approved for the year 2020- 21.

The main objectives of the scheme are as under:

- To strengthen the farmers efforts through creation of required pre and post-harvest agri-infrastructure that increases access to quality inputs, storage, market facilities etc. and enables farmers to make informed choices.
- To provides flexibility and autonomy to States in the process of planning and executing Agriculture and Allied sector schemes.
- To promote value chain addition linked production models that will help farmers increase their income as well as encourage production/productivity.
- To mitigate risk of farmers with focus on additional income generation activities-like integrated farming, mushroom cultivation, bee keeping, aromatic plant cultivation, floriculture etc.
- To attend National priorities through several sub schemes
- To empower youth through skill development, innovation and agripreneurship based agri business models that attract them to agriculture.

13. National Mission on Agricultural Extension and Technology (NMAET):

National Mission on Agricultural Extension and Technology (NMAET) has been launched to make the extension system farmer-driven and farmer arrangement of technology dissemination.

NMAET has been divided into three sub-missions.

- Sub Mission on Agriculture Extension (SAME).
- Sub Mission on Seed and Planting Material (SMSP).
- Sub Mission on Agriculture Machanization (SMAM). Under the scheme a budget provision of ₹33.49 crore has been made for 2020- 21.

14. National Mission on Sustainable Agriculture (NMSA):

National Mission for Sustainable Agriculture (NMSA) has been formulated for enhancing agricultural productivity especially in rain fed areas. There are three different components of this scheme.

- Rainfed Area Development (RAD).
- Soil Health Management (SHM).
- Parampragat Krishi Vikas Yogna (PKVY), Enhancing water Use efficiency.

Under the scheme a budget provision of ₹16.70 crore has been made for the year 2020-21.

15. National Food Security Mission (NFSM):

- The National Food Security Mission (NFSM) aims to enhance the production of rice, wheat and pulses. NFSM has been launched in the State from Rabi 2012 with two major components viz. NFSM-Rice and NFSM-Wheat. The aim of mission is to increase production of rice and wheat through area expansion and productivity enhancement, restoring soil fertility and productivity, create employment opportunities and enhance farm economy in targeted districts. Under this scheme provision of ₹15.01 crore has been made for the year 2020-21.

16. Pradhan Mantri Krishi Sinchai Yojna :

- To improve agricultural productivity, the Government of India has started scheme, viz. Pradhan Mantri Krishi Sinchai Yojna (PMKSY). Micro-irrigation projects ("Har Khet Ko Pani") and end-to-end irrigation solutions are the key focus of this scheme. "The major objective of the PMKSY is to achieve convergence of investments in irrigation at the field level, expand cultivable area under assured irrigation, improve on-farm water use efficiency to reduce wastage of water, enhance adoption of precisionirrigation and other water-saving technologies". Under this scheme a budget provision of ₹9.00 crore has been made for the year 2020-21 under State Plan.

17. Efficient Irrigation through Micro-Irrigation Scheme:

- For efficient system of irrigation, the Government has launched a scheme named 'Efficient Irrigation through Micro-Irrigation Systems' with an outlay of ₹154.00 crore over a period of 4 years starting from 2015-16 to 2018-19. Through this project 8,500 hectare area will be brought under Drip/ Sprinkler Irrigation System benefitting 14,000 farmers. Subsidy @ 80 per cent for the installation of sprinkler and drip irrigation system would be provided to the farmers. A budget provision of ₹30.00 crore has been made for this component for the year 2020-21.82

18. Uttam Chara Utpadan Yojna:

- To increase fodder production, the State Government has launched a scheme; 'Uttam Chara Utpadan Yojna for fodder development by bringing an area of 42,000 hectare under fodder production. Quality seed of fodder grasses, cuttings, and seedings of improved fodder varieties is supplied on subsidized rates to the farmers. Subsidy on Chaff Cutters is available to the SC/ ST and BPL farmers. A provision of ₹5.60 crore has been made for year 2020-21 under this scheme.

19. Mukhya Mantri Khet Sanrakshan Yojna:

- Monkey and wild life menace causes huge loss to crops annually. Himachal Pradesh has introduced a scheme "Mukhya Mantri khet Sanrakshan Yojna". Under this scheme, 80 per cent subsidy is provided. Under this scheme ₹40.00 crore has been provided for the year 2020-21. About 2,000 hectares cultivated land will be fenced/ protected from wild/ stray animals and monkeys menace under this scheme.
- The state has also planned to use SPV technology as power source by installing solar fencing. **Sixty percent of financial needs** will be provided by the government, whereas the remaining amount should be spent by the beneficiary.

20. Mukhya Mantri Kisaan Evam Khetihar Mazdoor Jeevan Surakhsha Yojna :

- To provide Insurance cover to the farmers and agricultural labourers in the event of sustaining injury or death due to operation of farm machinery, the State Government has launched 'Mukhyamantri Kisaan Evam Khetihar Mazdoor Jeevan Surakhsha Yojna in 2015-16. In case of death ₹3.00 lakh, permanent disability ₹1.00 lakh and for partial disabilities ₹10,000 to ₹40,000 is provided to the affected farmers.

21. Lift Irrigation and Borewell Scheme:

- In most parts of the State, water has to be lifted for irrigation purpose. As an incentive to the farmers, Government has decided to grant **50 per cent subsidy** for construction of Lift Irrigation Schemes and installation of **Bore-Wells** by individual or group of farmers for irrigation purposes.
- Under this scheme, financial assistance is available for construction of Low & medium lift irrigation systems, shallow wells, shallow bore wells, water storage tanks of different capacities, pumping machinery and water conveyance pipes to individual farmers or a group of farmers. A budget provision of ₹10.00 crore has been kept for the year 2020- 21.

22. Saur Sinchayee Yojna:

- State Government has introduced a new scheme viz, "SAUR SINCHAYEE YOJNA" with a view to provide assured irrigation to crops, enhance the production & productivity where electricity accessibility in remote areas is costly in comparison to Solar PV pumps.
- Under this scheme, **85%** is being provided to farmers for the installation of solar pumping machinery and 5,850 agriculture solar pumping sets. A budget provision to the tune of ₹25.00 crore has been kept for 2020- 21.

23. Jal Se Krishi Ko Bal Yojna:

- Under this scheme check dams and ponds will be constructed. The total outlay for this scheme is ₹ 250.00 crore for next five years. A budget provision of ₹ **25.00 crore** has been kept for 2020-21. Under this scheme, **100 per cent expenditure** would be borne by the Government for implementation of community based small water saving scheme.

24. Krishi Kosh:

- Farmers Producer Organizations which are weak in resource mobilization and face problems in creating infrastructure facilities on their own. They represent agriculturist, horticulture farmers, dairy farmers and fishermen. They require basic inputs during sowing, harvesting and post harvest infrastructure like grading and packaging machines, transport vehicles, storage godowns and pack house etc. for which long term capital is required. Considering this fact, State Government has introduced a new scheme viz. Krishi Kosh for supporting seed money, interest subvention and credit guarantee cover to the farmers. The scheme will benefit 75 thousand to 90 thousand farmers by 2022. A budget provision of ₹20.00 crore has been made for the year 2020-21.

25. Krishi Se Sampannta Yojana (KSY):

- A new variety of **Heeng (Asafoetida)** has been identified by the **Institute of Himalayan Bio Technology (IHBT) Palampur**, which can be grown in high altitude area of **Lahul & Spiti, Kinnaur and Chamba etc.**
- Similarly, in some parts of the State climatic condition for the cultivation of **Saffron** is highly favourable. Keeping in view the importance & favourable cultivation conditions of both the crops, State Government from the year 2020-21 has proposed to implement a new scheme viz. Krishi Se Sampannta Yojna. A budget provision of ₹5.00 crore has been made for the year 2020-21.

26. Krishi Utpadan Sarankshan Yojna (Anti Hail Net) :

- To save crops from hailstorms, the State Government has started a new scheme i.e. Krishi Utpadan Sarankshan Yojana (Anti Hail net) from the year 2020-21. Under this scheme, the State Govt. will provide 80 per cent subsidy to farmers on purchase of anti- hail nets. All the vegetable producing farmers of the state are provided antihail nets to protect their crops from natural calamity like hailstorms, stray animals and monkeys. A budget provision of ₹10.00 crore has been made for the year 2020-21.

27. Kishan Saman Nidhi Yojna :

- This scheme is Flagship programme of Govt. of India for providing financial support to farmer having less than 2 hectare land and ₹6,000 is provided. Under this scheme 9,26,830 farmers of the Pradesh has been benefitted up to January, 2021 with an expenditure of ₹1,169.37 crore.

28. National Bamboo Mission:

- Restructured National Bamboo Mission was approved by the Cabinet Committee on Economic Affairs on 25- 4-2018. The main objective of this mission is to increase the area under bamboo plantation in non forest Government and private lands to supplement farm income and contribute towards resilience to climate change as well availability of quality raw material requirement of Industries, Department of Agriculture, Himachal Pradesh has been nominated as Anchoring Department and Director of Agriculture, Himachal Pradesh as State Mission Director. Stakeholders are Department of Forest, Rural Development, Department of Panchayati Raj, Department of Industries and State Agricultural Universities. A budget provision of ₹4.00 crore has been made for the year 2020-21.

DEVELOPMENT OF HORTICULTURE IN HIMACHAL PRADESH:

- The rich diversity of agro-climatic conditions, topographical variations and altitudinal differences coupled with fertile, deep, and well drained soils favour the cultivation of temperate to sub-tropical fruits in Himachal.
- The region is also suitable for cultivation of ancillary horticultural produce like flowers, mushroom, honey, and hops. This suitability of Himachal has resulted in shifting of land use pattern from agriculture to fruit crops in the past few decades.
- The area under fruits, which was **792 hectares in 1950-51** with total production of **1,200 tonnes** increased to **2,33,300 hectares during 2019-20** and the total fruit production was **8.45 lakh tonnes**, while during 2020-21 (up to December 2020) it has been reported as **4.82 lakh tonnes**.
- During 2020-21 it was envisaged to bring 1,340 hectares of additional area under fruit plants against which 2,588.52 hectares of area was brought under plantation and 7.69 lakh fruit plants of different species were distributed up to 31st December 2020.
- **Apple:** Apple is the most important fruit crop of Himachal Pradesh, which constitutes about **49 per cent of the total area under fruit crops** and about **85 per cent of the total fruit production**. Area under apple has increased from **400 hectares** in 1950-51 to **1,14,144 hectares** in 2019-20.
- **Area under Temperate Fruit:** The area under temperate fruits, other than apple has increased from 900 hectares in 1960-61 to 27,956 hectares in 2019-20. Nuts and dry fruits exhibit area increase from 231 hectares in 1960-61 to 10,070 hectares in 2019-20, citrus and other sub tropical fruits have increased from 1,225 hectares and 623 hectares in 1960-61 to 25,051 hectares and 56,079 hectares in 2019-20 respectively.
- **Sub-Mission of Agriculture Mechanisation (SMSM):** This scheme is being implemented in the State. Under the scheme, assistance is provided to the farmers for the purchase of various modern farm tools and machinery in form of back ended subsidy. State Agriculture Department, Himachal Pradesh is nodal Department of the 85 schemes. During the year 2019-20 funds amounting to **₹14.83 crore** has been allocated to the Department of Horticulture out of which **₹ 12.32 crore** has been spend under this scheme and **1,530 farmers** have benefitted for the year 2019-20.
- **Market Intervention Scheme:** The fruit producers should get better price of their produce therefore **marketing Intervention Scheme** is being implemented in the State. Under this scheme during the year 2020-21 the procurement price of Apple **₹8.50 per Kg**. The procurement price of Mango fruit is **₹8.50 per kg**. Total **0.60 MT citrus fruits** have been procured under the scheme till **31.12.2020**.
- **Tropical Fruits:** In warmer areas of the State Mango has emerged as an important fruit crop. Litchi is also gaining importance in certain regions. Mango and Litchi are fetching better market prices. In the middle zone, the agroclimatic conditions are highly suitable for the successful cultivation of new fruits like Kiwi, Olive, Pomegranate, Pecan and Strawberry.
- **Diversification in Horticulture:** To bring diversification in horticulture, a total area of **399.49 hectares** has been brought under flower cultivation up to 31.12.2020. To promote flower cultivation, two Tissue Culture Laboratories have been established under **Model Flower Cultivation Centres at Mahogbagh (Chail, District Solan) and Palampur, District Kangra**. Ten Farmers Cooperative Societies are functioning for the production and marketing of flowers in district **Shimla-3 Nos, Kangra- 2 Nos, Lahaul and Spiti- 2 Nos, Kullu (Anni)-1No, Solan- 1 No. and 1 No. in Chamba district**. Ancillary horticultural activities like Mushroom and Bee keeping are also being promoted. During 2020-21 up to December, 2020, 298.44 MT of pasteurized compost for

Mushroom was prepared and distributed from the department units located at **Rampur, Bajoura and Palampur**. **1,309 MT.** of Mushroom was produced in the State during the year up to December, 2020.

- **The Weather Based Crop Insurance Scheme** was initially launched in Himachal Pradesh in 6 Blocks for Apple crop and in 4 Blocks for Mango crop during rabi season 2009-10 on pilot basis. In view of the popularity of this scheme, the coverage under this scheme has been extended during the consecutive years. During 2017-18, the scheme is being implemented in 36 Blocks for Apple, 41 Blocks for Mango, 15 Blocks for citrus, 13 Blocks for Plum and 5 Blocks for Peach crops. In addition, to protect Apple fruit crop from hailstorm 19 Blocks have been covered under Addon cover scheme. From the year 2016- 17 name of the scheme has changed to Restructured Weather Based Crop Insurance Scheme (R-WBCIS) and sum insured has been revised and bidding system has been introduced. During Rabi season 2019-20, 84,623 farmers have been covered under R-WBCIS for apple, peach, plum, mango and citrus fruit crops, who have insured their 63,61,540 trees for which the state government has borne 25 per cent premium subsidy of ₹20.31 crore.
- **Himachal Khumb Vikas Yojna** : A newly launched scheme Himachal Khumb Vikas Yojna was launched during **2020-21** to promote mushroom cultivation in the State and ₹5.00 crore were received and further allocated to field functionaries. During 2020-21 till December 2020 the Himalayan Research Group (HRG) Button Mushroom compost unit produced 120 MT of spawned compost and was provided to mushroom growers in **Shimla, Mandi and Kullu** District. On average 20% conversion it was estimated that quantity of compost produced 24MT Mushrooms during this duration. In the year 2020-21 a fund of ₹20.00 crore have been allocated under “Installation of Anti-Hail Nets” Scheme to protect the fruit crops from hail storms and expenditure of ₹11.68 crore have been incurred up to December, 2020 by benefitting 1,231 farmers were benefitted.

Himachal Pradesh Marketing Corporation (HPMC):

- H.P.M.C., a State public undertaking, was established with the objective of marketing fresh fruits and vegetables, processing the unmarketable surplus and marketing the processed products. Since its inception, HPMC has been playing pivotal role in the life of fruit growers of the State by providing them remunerative returns of their produce. During the year 2019-20 HPMC had registered overall turnover of ₹88.96 crore against the target of ₹80.02 crore fixed for the financial year 2019-20. Under Market Intervention scheme, during the year 2020-21 the Govt of State continued a policy of Market Intervention Scheme (MIS) of Mango, Apple and citrus fruit in the state with the support price as under:

Sr. No.	Name of fruit	Procurement Price (₹ Per Kg.)
1	Mango (Grafted varieties)	8.50
2	Mango (Seeding varieties)	8.50
3	Mango (Unripe Anchari)	8.50
4	Apple	8.00
5	Kinnow, Malta and Orange (B grade)	7.50
6	Kinnow, Malta and Orange (C grade)	7.00
7	Galgal (All grade)	6.00

Contribution of Corporation:

- The Corporation has successfully commissioned 5 CA Stores in the following Apple growing areas of District Shimla and Kullu **namely Jarol Tikker, (Kotgarh) 640 MT, Gumma (Kotkhai) 640 MT, Oddi (Kumarsain) 700 MT and Patlikuhal (Kullu) 700 MT capable to store total 3,380 MT,s.**
- Setting up of one modern vegetable pack house and cold room at **Nadaun district Hamirpur** and setting up of Pack house and cold room for packing grading of fruits, vegetables, flowers and culinary herb at **Ghumarwin in district Bilaspur** with 100 per cent grant in aid of ₹7.89 crore are likely to be completed by March 2021 for grading and storing of vegetables in the district of Hamirpur and Bilaspur.
- Grant in aid to the tune of ₹8.00 crore for the up gradation of Apple Juice Concentrate (AJC) **Plant at Parwanoo** has been received from Agricultural and Processed Food Products Export Development Authority (APEDA) and work of up gradation has been successfully completed in year 2018 by undertaking trial production in the same year. Plant was set up for commercial production in 2019 and during that production of Apple Juice Concentrate (AJC) stood at 1,012 MT. 703 MT Apple Juice Concentrate (AJC) and 5.7 MT during 2020 Apple Aroma was produced at Food Processing Plant (FPP) Parwanoo. At Fruit Processing Plant (FPP), Jarol (Sundernagar) all time high production during one calendar was recorded in 2019 by producing 235 MT,s of AJC, and 112 MT of AJC was produced at Jarol during 2020.
- HPMC has entered an MoU with the parties M/S PH 4 for manufacturing of Apple Cider at FPP Parwanoo and manufacturing of Fruits and Red Wine at FPP Jarol with M/S Mountain Barrel. This will help to boost the sale as well as profit margin of the Corporation in the coming years.
- HPMC has planned to enhance its existing capacity of Grading Storage and Processing of different fruit produced in the State from the World Bank funded Project. Under this project the process of enhancing the existing storage capacity of CA Stores **Jarol Tikker, Gumma and Rohru** from existing **1,980 MT to 6,000 MT** is under process. The work of awarding tender has been completed and its up gradation is likely to be started soon. Besides, the process of setting up of modern Apple Juice Concentrate Plant at Parala with a capacity to crush 200 MT of fruit per day is at advance stage and work is going on to ensure its installation before Apple Season-2022. This will help to cut down the price of AJC and Corporation will be able to compete in the international market for sale of AJC.

ANIMAL HUSBANDRY

Animal Husbandry and Dairying Rearing of Livestock is an integral component of rural economy. In Himachal Pradesh, there is a dynamic relationship between Common Property Resources (CPRs) such as forests, water and grazing land, livestock and crops. Livestock is integral to the sustainability of economy of Himachal Pradesh.

The contribution of major livestock products during the year 2019- 20 was 15.31 lakh tonne of milk, 1,516 tonne of wool, 106.62 million eggs and 4,601 tonnes of meat which will likely to be of the order of 15.80 lakh tonne of milk, 1,467 tonnes of wool, 106 million eggs and 4,200 tonnes of meat during 2020-21.

Milk Production and Per Capita Availability

Year	Milk Production (lakh tonnes)	Per Capita Availability (Gram/day)
2019-20	15.31	612
2020-21 (Estimated)	15.80	630

Animal Husbandry plays an important role to boost the rural economy and as such for livestock development programme attention is paid in the State by way of:

- i) Animal Health and Disease control
- ii) Cattle Development
- iii) Sheep Breeding and Development of Wool
- iv) Poultry Development
- v) Feed and Fodder Development
- vi) Veterinary Education
- vii) Livestock Census Under Animal Health and Disease Control

For improving the quality of sheep and wool, Government Sheep Breeding Farms at **Jeori (Shimla), Tal (Hamirpur), and Karachham (Kinnaur)** are supplying improved sheep to the 90 breeders of the State. One Ram centre at **Nagwain in district Mandi** is also functioning where improved Rams are reared and supplied to breeders for cross breeding.

The flock strength of these farms are 1,275 during the year 2020-21 up to December, 2020 In view of the increasing demand for **pure Hoggets** and the established popularity of the Soviet Marino and American Rambouillet in the pradesh, the State has switched over to pure breeding at the existing Government farms in the State and 9 Sheep and wool Extension Centres continue functioning. During the year 2020-21, the wool production is likely to be 1,467 tonne.

Angora rabbit farms are functioning at **Kandwari (Kangra) and Nagwain (Mandi)** for distribution of rabbits to the breeders. Dairy production is an integral part of Animal Husbandry and forms part of the earning of small and marginal farmers in Himachal Pradesh. The recent trend towards the development of a market oriented economy emphasised the importance of milk production, especially in areas falling in the vicinity of urban consumption centres. This has motivated farmers to replace local non-descript breeds of cows with crossbreed cows. Upgradation of indigenous cattle is being carried out by cross breeding with Jersey and Holsten. In buffalo upgradation with Murral bull is being popularized.

Artificial insemination with the latest technology of **Deep Frozen Semen** is being practiced. During 2019-20, 8.46 lakh semen straws for cows and 3.00 lakh semen straws for buffaloes were produced by sperm station.

Uttam Pashu Puraskar Yojna: During 2020-21 the "Uttam Pashu Puraskar Yojna" is being implemented with the provision of `21.00 lakh.

Backyard Poultry Scheme: During 2020-21 under the Backyard Poultry Scheme 4.10 lakh dual purpose coloured strains chicks are likely to be distributed and 2,000 persons are targeted to impart training in poultry farming 3,06,749 lakh chicks were distributed among the 7,306 beneficiaries under this scheme till December, 2020 .

One Horse Breeding Farm at **Lari in Lahaul and Spiti district** has been established with the objective to preserve Spiti breed of horses. 59 horses have been kept in this farm during the year 2020-21 up to December, 2020. **One Yak breeding farm** has been also established in the premises of horse breeding Lari. During the year 2020-21 up to December, 2020 the strength of yaks was 62 in this farm. Under feed and fodder development scheme, 15.00 lakh fodder roots, 68,000 fodder plants have been distributed during 2020-21.

Dairy Entrepreneurship Development Scheme (Doodh Ganga Yojna):

Doodh Ganga Scheme has been launched in collaboration with NABARD in the state since 25th September 2009.

The components of the scheme include:

- Establishment of small dairy units (units size comprise of 2-10 milch animals) bank loan of `6.00 lakh for purchase of 10 animals.
- Bank Loan to the tune of `20.00 lakh for purchase of milking machine/ bulk milk cooling units,
- Purchase of dairy processing equipments for manufacture of indigenous milk products, bank loan to the tune of `13.20 lakh.

- Establishment of dairy products transportation facilities and cold chain bank loan of `26.50 lakh.
- Cold storage facilities of milk products bank loan of `33.00 lakh.
- Dairy, marketing outlet/ Dairy Parlour bank loan of `1.00 lakh.

Pattern of Assistance

- Bank ended capital subsidy @ 25 per cent of the project cost for general category and 33.33 per cent for farmers of SC/ ST category.
- Entrepreneur contribution (Margin - Money) for the loans beyond `1.00 lakh will be 10 per cent of the project cost.
- Apart from above, State Government is providing additional subsidy of 10% for the purchase of crossbreed/Jersey cows and 20% for the purchase of indigenous cows to the benefiter of DEDS scheme.

Backyard Poultry Farming:

To develop poultry sector in Himachal Pradesh, department has instituted following poultry development schemes especially in rural areas of the State.

Backyard Poultry Project: -

- 3 week old Low Input Technology (LIT) birds are distributed among the poultry breeders on cost price
- 200-Chick Scheme:-Under this scheme the 585 poultry breeders belonging to BPL Families of Schedule cast Category are to be provided with inputs (like 200 days old LIT birds, feed for initial feeding, feeders & drinkers) worth ₹10,000 per beneficiaries. There is also provision of training regarding poultry management for the beneficiaries.
- Him Kukkut Palan Yojna: There is a provision of budget of ₹214.00 lakh for the establishment of 54 poultry units in the State. The beneficiaries are provided 3000 No. day old broiler chicks, feed, feeders & drinkers. The beneficiaries are provided 60 per cent subsidy on both Capital Investment (construction of shed, provision of feeders & drinkers) and Recurring cost (Cost of chicks, feed etc.)
- 4. Innovative Poultry productivity Project (IPPP)-LIT Bird (Under NLM): In this scheme 200 beneficiaries are to be provided with 400 four-week-old LIT birds (in two installments of 200LIT birds each at an interval of 72 weeks) and assistance of ₹15,000 will be 92 provided to beneficiaries for provision of shelter, feed & miscellaneous expenditure.
- Innovative Poultry productivity Project (IPPP)- Broilers (Under NLM): Under this scheme 200 beneficiaries are to be provided with 600 four-week-old LIT birds (in four installments of 150 LIT birds each installment) feed and assistance of ₹15,000 fund will be also provided to beneficiaries for construction of shed.

Rashtriya Gokul Mission (RGM):

Rashtriya Gokul Mission is being implemented with the objectives of:-

- Development and conservation of indigenous breed.
- Breed improvement programme for indigenous cattle breeds to improve their genetic makeup and increase the stock.
- Enhancement of milk production and productivity.
- Up-gradation of nondescript cattle using elite indigenous breeds like, Sahiwal and Red Sindhi.
- Distribution of disease free high genetic merit bulls for natural service.
- Establishing of a Gokul Village in the state

- Establishing of Murrah Buffalo Farm.

Embryo Transfer & In-vitro fertilization Technology for Bovine Breeding:

This project has been sanctioned for conservation and propagation of Sahiwal and Res Sindhi breeds through embryo transfer technology (E.T.T.) at Palampur and ₹195.00 lakh has been released by the Government of India and the works is in progress.

Jersey PT project in District Kangra :

The Government of India has sanctioned a sum of ₹1,166.54 lakh for the implementation of the project for production of High Genetic Merit Jersey bulls through progeny testing program.

Funds have been released to District Kangra for the implementation of this project.

- To produce the required high genetic merit bulls for semen stations through progeny testing.
- To establish a system of genetic evaluation of young bulls, bull dams and bull sires and their selection for continuous genetic improvement.
- To achieve a study genetic progress in the cattle population for milk, fat, SNF and protein yield and type characters in the village where the progeny testing program is implemented.

National - wide AI Programme (NAIP):

Under this project a sum of ₹519.43 lakh has been sanctioned by the Government of India on 100 per cent central assistance pattern.

The programme is implemented with the following objectives: -

- Providing door step reliable breeds.
- Birth of genetically superior breeds
- Increase in milk production.
- To educate the farmers to adopt AI technology.
- Increase in farmer's income.

National Livestock Mission (NLM):

- National Livestock Mission (NLM) is a centrally sponsored scheme launched w.e.f. year 2014-15.
- The mission is designed to cover all the activities required to ensure quantitative and qualitative improvement in livestock production systems and capacity building of all stakeholders.
- Activities related to development of Small Ruminants i.e. sheep and goat, fodder development, risk management and poultry development are included in the scheme.
- State share is different for different components under this scheme.

Assistance to State for Control of Animal Diseases:

- Due to large scale interstate migration from adjoining states and lack of nutrition grasses and fodder due to hilly topography most of animals are prone to various livestock diseases. Central government has provided assistance to state government for control of contagious diseases under, "Assistance to States for Control of Animal Diseases" (ASCAD) which is on the pattern of 90 per cent Central and 10 per cent State share.
- Diseases for which free vaccination is being provided to livestock owners are foot and mouth Disease, Hemorrhagic Septicemia Black Quarte, Enterotoxaemia, Peste Das Petitis Ruminants, Raniket Disease, Marek's disease and Rabies under this project.

Shepherd Scheme:

- The local sheep is being crossed with good quality Rams of Rambouillet and Russian Merino so that the quality as well as quantity of wool production can be increased. Hence, it is being proposed that these Rams should be provided to the sheep breeders at 60 per cent subsidy.

BPL Krishak Bakri Palan Yojana:

- Under this scheme it is proposed to distribute units of 11 Goats (10 female+1 male), 5 Goats (4 female + 1 male) and 3 Goats (2 female + 1 male) of Beets Sirohi/ Jamnapari/ white Himalayan breeds respectively on 60 per cent subsidy to landless, BPL category farmers to increase their income.

Rashtriya Krishi Vikas Yojna (RKVY):

- The aim of RKVY is to strengthening infrastructure, Veterinary Service, Extension activities, Poultry Development of small Ruminants, improvement of nutritional status of livestock, health status of livestock and other activities related to the livestock owner of the State. Department of Agriculture is the Nodal Agency to implement this scheme and ₹138.89 lakh has been allocated for the financial year 2020-21.

Integrated Sample Survey for Estimation of Production of Major Livestock Product:

- This survey is carried out in the state as per the guideline of Indian Agricultural Statistical Research Institute (AHS Division) New Delhi. It provides a reliable database relating to livestock population. Integrated Sample Survey is being conducted since 1977-78 regularly every year with the aim:-94 1. To estimate season wise & annual milk, egg & wool production. 2. To work out average population & yield estimates. 3. To estimate dung production. 4. To work out average feed & fodder consumption. 5. To study trend of population, yield & production.

LIVESTOCK CENSUS:

Livestock census is being conducted quinquennially by the government of India and so far, 20 such census has been conducted. Livestock Census is significant for the development of Animal Husbandry in state. New policies related to animal development are prepared based on the exact number of livestock and poultry by Himachal Pradesh.

Table Livestock and Poultry (in,000)

Sr. No	Category	Year 2019
1	Cattle	1828
2	Buffaloes	647
3	Sheep	791
4	Govt	1108
5	Horses & Poinies	9
6	Mules & Donkeys	25
7	Pigs	2
8	Other livestock	3
9	Total Livestock	4413
10	Poultry	1342

Source: Directorate of Animal Husbandry & Directorate of Land Records, Himachal Pradesh

Milk Based Industries:

- The dairy development activities in Himachal Pradesh are based on two tier structure of dairy cooperatives. The basic unit of Anand Pattern is a village dairy cooperative where the milk of the milk producer is collected and tested, and payment made on the basis of the quality.
- H.P. Milkfed is implementing dairy development activities in the state.
- The H.P. Milkfed has 1,024 milk producers Co-operative Societies. The total membership of these societies is 46,687 out of which 215-woman dairy co-operatives are also functioning. The surplus milk from the milk producers is collected by village dairy co-operative societies, processed and marketed by H.P. Milkfed.
- At present the Milkfed is running 22 milk chilling centres having a total capacity of 91,500 litres milk per day and 11 milk processing plants having a total capacity of 1,00,000 litres milk per day.
- One milk powder plant of 5 metric tonne per day at Duttanagar in Shimla district and one cattle feed plant of 16 metric tonne per day capacity at Bhor in District Hamirpur has been established and functioning.
- The average milk procurement is about 1,30,000 litres per day from the villages through village dairy co-operatives. H.P. Milkfed is marketing approximately 27,397 litres of milk per day which includes milk supply to various prestigious dairies in bulk and supply to army units in Dagshai, Shimla, Palampur and Dharamshala (Yol) areas.
- H.P. Milkfed is manufacturing Him Milk Product such as Milk Powder, Ghee, Butter Dahi, Paneer & Sweetened Flavoured Milk, Khoa under the brand name of 'Him'. The quality of milk and milk products manufactured by H.P. Milkfed at par with required standard. To improve the quality of procurement of milk, all the dairy cooperatives have been provided 15 no. AMCU (Automatic Milk Collection Unit) and 11 no. milko screen for the testing of adulteration along with fat/snf at plant level. H.P. Milkfed has manufactured around 410 qtls sweets for Diwali 95 festival during 2020-21. H.P. Milkfed has started sale of Milk & Milk products through CSC e-Governance Service India Limited to boost up the sale and also opened Milk bar in alternative locations. H.P. Milkfed provides technical know-how, awareness activities in field of dairy by organizing seminars, camps in rural areas. Besides this, other inputs like cattle feed and clean milk production activities are provided to the farmers at their door steps. Himachal Pradesh Government has increased milk procurement rates by `2.00 per litre w.e.f. 01.04.2020 thus giving direct financial benefits to 46,687 families associated with the Milk Federation.

New Innovations of Milkfed:

- Himachal Pradesh Milkfed is manufacturing panjiri at 'Panjiri Manufacturing Plant' Chakkar (Mandi) to cater the need of the Welfare Department under ICDS Project. During 2020-21 Milkfed has manufactured and supplied 23,341 quintal of Fortified Panjiri 3,985 quintals of Skimmed Milk Powder (SMP) and 18,250 quintals of Fortified bakery biscuit and 5,649 wheat seviyan to Women and Child Welfare Department.
- A training programme to milk producers at village level for educating them to produce good quality of milk.
- Deposited about 10,000 KCC forms of the farmers in the concerned banks and around `2.00 crore of credit has been distributed through KCC to the milk producers/farmers.
- Milkfed equipped its labs with modern equipment under National Programme for Dairy Development Scheme.

- During 2021-22, H.P. Milkfed were establish one 50,000 LPD capacity milk processing plant at Duttanager and hereby enhancing the handling capacity to 70,000 LPD which would cater to the needs of Dairy cooperatives of Shimla, Kullu, Kinnaur & part of Mandi District.
- One new plant of 50,000 LPD capacities at MPP Chakkar District Mandi is being established thereby providing benefit to dairy cooperative of Mandi, Kullu, Bilaspur and other districts.
- Planning to supply Malted Milk Food to Defence units in the next financial year.
- Planning to introduce Wheat pasta & nutrition drinks in chocolate flavor in the Anganwadis of welfare department.
- Implementing a State project worth ₹225.00 lakh in the ratio of 60:40 to fulfill the gaps in the existing infrastructure and has provided the lab equipment to the plants of Milkfed.
- Introduced Chhena Kheer in the State.
- Launched Immunity Boosting Him Haldi Dudh in the State especially in this pandemic phase of covid-19
- Distributed incentive ₹2,000 to 835 milk producers of Mandi, Shimla and Kullu Districts under National Programme of Dairy Development by Hon'ble Chief Minister on 12.08.2020 using Digital Platform.
- Distributed one thousand Stainless Steel Buckets/pails of 5 litre capacity to milk producers of Mandi, Shimla and Kullu districts for clean and hygienic production of milk.

FISH AND AQUACULTURE:

- Himachal Pradesh has been gifted by Mother Nature with rivers emanating from glaciers which traverse through hilly terrains and finally enrich the semi-plain area of the State with their oxygen rich water.
- Its linearly flowing rivers Beas, Satluj and Ravi receive many streams during their downward journey and harbour the precious **cold water fish fauna** such as **Schizothorax, Golden Mahseer and exotic Trouts**. Cold water resources of the State have shown their potential with the successful completion of ambitious **Indo-Norwegian Trout farming project** and tremendous interest shown by the hill populace for the adoption of evolved technology.
- The commercially important fish species in Gobind Sagar and Pong Dam reservoirs, Chamera and Ranjeet Sagar Dam have become a tool for the upliftment of local population. About **5,567 fishermen** in the State depend directly on reservoir fisheries for their livelihood. During 2020-21 up to December 2020 cumulative fish production was 9,811 MT valued at ₹122.86 crore
- The Department of Fisheries has initiated many welfare schemes for the upliftment of fishermen. Fishermen are covered under insurance scheme where **₹5.00 lakh** is given (in case of death/permanent disability) and even losses to their gear and crafts are also being borne by the State Government to the extent of **50 per cent** under "**Risk Fund Scheme**". A contributory saving scheme has been initiated by the State Government and matching State's share of deposited saving is provided to them during the close season. The amount so generated is paid to fishermen in two equal monthly installments. During the year 2020-21 an amount of ₹160.00 lakh, (₹53.30 lakh contributed by the fisherman plus ₹106.70 lakh as financial assistance from the State and Centre Government) will be provided to 3,557 Fishermen under Saving-cum-Relief Fund Scheme.
- During the Financial year 2020-21 Department of Fisheries, Himachal Pradesh has started a new scheme "**Trout Livestock Insurance Scheme**" to provide the insurance cover to livestock of cold-water fish farmers of the State. The premium amount is shared between State Government and

beneficiaries in the **65:35 ratios** respectively. The wide insurance cover is being provided through United India Insurance Company Limited. This year department has insured 43 trout units by the 29 fish farmers. Each trout unit is covered for maximum input cost of ₹2.50 lakh per annum with a premium of ₹19,175. This was a long standing demand from trout growers of the State

- Under **Pradhan Mantri Matsya Sampada Yojana** which is introduced by the State during current financial year. In this scheme, department under Central sector scheme has submitted various projects amounting ₹5,914.59 lakh for sanctioning to the Government of India. In these submitted projects ₹3,579.72 lakh is Central share ₹348.93 lakh is State share and ₹1,985.94 lakh is Beneficiaries share Government of India has accorded sanction of ₹4,063.00 lakh project for the current financial year in which ₹1,877.99 lakh is Centre share ₹208.67 lakh is State share and ₹1,976.34 lakh is Beneficiaries share.

Government of India against their total sanctioned Central share has also released ₹300.00 lakh as first instalment which will be used for subsidy in the State to execute the following schemes/projects:

- Establishment of 6 Fish Kiosk in private sector.
- Establishment of one Backyard Ornamental Fish units in private sector.
- Establishment of one Medium size Ornamental Fish units in private sector.
- Establishment of 3 Medium size Biofloc in private sector.
- Purchase of one Insulated Vehicle in private sector.
- Purchase of 20 Motorcycles for fish sale in private sector.
- Establishment of 6 Medium size Fish Feed Mills in private sector.
- Establishment of 10 Biofloc Fish Ponds units in private sector.
- Establishment of 12 Small Biofloc Fish Tanks in private sector.
- Establishment of one Trout Fish Recirculatory Aquaculture system in Private sector.

FORESTS:

- Forest Forests in Himachal Pradesh cover an area of **37,948 Sq. Km.** and account for **68.16 per cent** of total geographical area of the State.
- The State has a declared vision of enhancing the forest cover in the State from the present about **27.72 per cent** (as per India State of Forest Report, 2019) of its geographical area to **30 per cent** by 2030 to meet the **Sustainable Development Goals (SDGs)**.

Important Plans and Programmes:

- **Forest Plantation:** Forest plantation is being carried out under various State Plan schemes such as Improvement of tree cover, and soil conservation, Compensatory Afforestation Fund Management and Planning Authority (CAMPA), Centrally Sponsored Schemes, National Afforestation Programme & National Mission for Green India as well as under Externally Aided Projects. Pasture and grazing lands of the State are being managed under State scheme for development of Pasture and Grazing lands.
- Van Mahotsava at State, Circle and Division levels is also celebrated for educating the masses and creating awareness amongst all stakeholders regarding forestry and environmental concerns under **New Forestry Scheme (Sanjhi Van Yojana)**.
- Apart from this, the department is organizing plantation drive involving local communities like Mahila Mandals, Yuvak Mandals, Local people and public representatives since 2018- 19 to ensure

active participation of communities in tree plantation. But due to Covid-19 pandemic the plantation drive could not be organized during the current monsoon season. However, during the year 2020-2021, the department has set plantation target of 12,000 hectare to achieve the Sustainable Development Goal and the same has been achieved by 30.09.2020. An award scheme has been introduced by the Govt. to encourage specific work done in nursery, plantation and forest conservation by the employees of the forest department, locals and school children. Cash prizes are given for best plantation and best plantation management.

- **Forest Management (Forest Fire Prevention & Management Scheme):** Forests in the State are subject to increasing biotic pressure due to increase in human population, changing animal husbandry practices and developmental activities. Forests are exposed to perils of fire, illicit felling, encroachments and other forest offences. Forest protection is being strengthened by equipping check posts at sensitive places with CCTVs to ensure electronic surveillance to curb forest offences. Firefighting equipment and improved techniques are also being introduced and made available to all the forest divisions where fire is a major destructive element. Communication network for effective management and protection of forest wealth is very important. Keeping these factors in view, Centrally Sponsored Scheme- Forest Fire Prevention & Management Scheme and State scheme namely, "Forest Fire Management Scheme" is being implemented in the State. Under these scheme various activities viz. maintenance of 2,500 km long existing Fire lines/ creation of new fire lines, engagement of Fire Watchers, control burning, procurement of fire fighting equipments, soil and moisture conservation works in high risk areas are being carried out.
- **Experimental Silvicultural Felling/Subsidiary Silviculture operations:** Forest wealth of Himachal Pradesh is estimated at more than ₹1.50 lakh crore. The Hon'ble Supreme Court of India has allowed the State for Silvicultural green felling of three species viz. **Khair, Chil and Sal** on experimental basis in three ranges **Nurpur range of Nurpur Forest Division, Bharari range of Bilaspur Forest Division and Paonta range of Paonta Forest Division** under the supervision of Monitoring Committee constituted for the purpose. The felling of trees was carried out during 2018-19 and during 2020-21 fencing, plantation, recuperation of areas under Experimental Silvicultural Felling is being carried out strictly as per recommendations of the Hon'ble Supreme Court Monitoring Committee. A budget provision of ₹10.00 crore has been kept under this scheme during 2020-21. The Hon'ble Supreme Court further recommended that to maintain healthy young and biodiversity rich forests, it is necessary to allow revival of prescribed silvicultural operations like cleaning, thinning and salvage of dead, dry trees as well as subsidiary silvicultural operations, like control burning for disposal of slash following other scientific prescriptions given in the approved Working Plans. Accordingly budget provision of ₹ 3.00 crore has been kept under scheme Subsidiary Silviculture Operations during 2020-21.
- **Samudayik Van Samvardhan Yojna:** The main objective of this scheme is to ensure participation of local communities in conservation & development of forests through plantation, improving quality of forest and increasing the forest cover. Rejuvenate and strengthen the bound of rural communities with nature and to ensure sustainable flow of ecosystem services from the forest. The scheme will be implemented through existing JFMCs/VFDSs. During 2018-19 & 2019-20, 29 sites were selected and 5 new sites (JFMCs /VFDSs) have been kept for the year 2020-21. During current year plantation and soil conservation activities will be carried out in all the 34 selected sites by the selected JFMCs/VFDSs as per approved micro plan of each selected JFMCs/ VFDSs. A budget provision of ₹4.00 crore has been kept under this scheme during 2020-21 and expenditure up to 31.12.2020 is ₹ 63.47 lakh.

- **Vidyarthi Van Mittar Yojna** : The main objective of the scheme is to sensitize the students about the importance of forests and their role in environmental conservation, to inculcate in students a sense of attachment towards nature conservation; to motivate students in sensitizing communities towards conservation and protection of forests and to create forest grooves & 101 increase forest cover. A budget provision of ₹1.75 crore has been kept under this scheme during 2020-21 target to select 110 new schools. Although 114 new schools were selected for carrying out plantation by the students over land of 106.25 hectare but due to Covid-19, the schools remained closed and this target will now be achieved during 2021- 22.
- **Van Samridhi Jan Samridhi Yojna**: This scheme has been started to strengthen the NTFP resource base in the State through active community participation. Building capacity of community groups in sustainable harvest handling and value addition to wild harvested NTFPs for enhancing economic returns. Empowerment of local communities in collection, conservation and marketing of NTFPs to augment the incomes of rural population. The scheme is being implemented initially in 7 most biodiversity rich districts namely, **Chamba, Kullu, Mandi, Shimla, Sirmour, Kinnaur and Lahaul & Spiti** through Community User Groups formulated/ identified by Biodiversity Management Committees. 138 Community User Groups have been constituted up to 2019-20 and target to formulate 53 CUGs has been kept for the year 2020- 21. A budget provision of ₹2.00 crore has been kept under this scheme during 2020-21.
- **Ek Buta Beti k Naam (Started during 2019-20)**: To sensitize people about the importance of daughters and forest conservation, a new scheme “Ek Buta Beti k Naam” has been launched during 2019-20. It is believed that by planting a sapling in the name of a girl child and with the effort of nurturing each sapling into a tree communities would be sensitized to be more committed towards the rights of the girl-child leading to realization of her full potential. Upon the birth of a girl-child anywhere in the State, the Forest Department would gift robust and healthy tall plants (Saplings) along with “kit” & instructions pamphlet to the family. The plants will be planted by the parents of the girl during monsoon or winter season as per suitability of the locality either on their homestead land or Govt. land. Plants and kits have been distributed to the parents of 13389 new born girls w.e.f. December, 2019 to November, 2020.
- **Parvat Dhara** : To rejuvenate extinct and depleted water sources in the State a new scheme “Parvat Dhara” has been launched during 2020-21. This will also help in providing flow irrigation facility to the fields along the slopes. Water harvesting structures will be constructed at the locations determined based on satellite images. This will help in recharging aquifers and also irrigating fields with the stored water. Although the scheme is being implemented by Jal Shakti Department but in forest areas the scheme is being implemented by Forest Department. Activities like construction of village pond, water harvesting structures, plantations, soak pits, dry stone check dams and Afforestation amounting to ₹2.94 crore are being carried out by the department at locations identified by Jal Shakti Vibhag in consultation of other stake holders.
- **Himachal Pradesh Forest Ecosystems Climate Proofing Project (K.F.W assisted)** : Himachal Pradesh Forest Ecosystems Climate Proofing Project with the assistance of **KfW Bank Germany** is being implemented in **Chamba and Kangra districts** of the State for the period of 7 years w.e.f. 2015-16. The cost of the project is ₹308.45 crore. The funding pattern of the project is 85.10 per cent loan and 14.90 per cent State share. The main objective of this project is the rehabilitation, protection and sustainable use of the selected forest ecosystems in Himachal Pradesh to increase and secure the resilience of forest ecosystems against climate change and ensure flow of forest-based products and other services, which benefit the forest dependent communities. In the long run this will

contribute to strengthening the adaptation capacity of forest eco systems to climate change, protection of biodiversity, stabilization of catchment areas, conservation of natural resource base and at the same time result in better livelihoods for the people of Himachal Pradesh. An outlay of ₹49.00 crore has been approved for the current financial year 2020-21 and expenditure up to December, 2020 is ₹18.16 crore.

- **Himachal Pradesh Forest Eco systems Management and Livelihood Improvement Project:** A new Project namely “Himachal Pradesh Forest Eco systems Management and Livelihood Improvement Project” for **8 years (2018-19 to 2025-26)** amounting to ₹800 crore has been started with the assistance of **Japan International Cooperation Agency (JICA)**. The Funding pattern of the project is **80 per cent loan and 20 per cent State share**. The project will be implemented in **Bilaspur, Kullu, Mandi, Shimla, Kinnaur, Lahaul-Spiti districts** and tribal areas of **Pangi and Bharmour sub-divisions of Chamba districts** with project headquarter at **Kullu Shamshi, district Kullu and Regional office at Rampur, district Shimla**. The objectives of the project are to conserve the forest and mountain eco system and improve livelihood of the forest and pasture dependent communities by increasing forest cover, density and productive potential using scientific and modern forest management practices; enhancing biodiversity and forest ecosystem conservation and to reduce pressure/ stress on forest resources by providing the village communities with alternative livelihood opportunity. During the financial year 2020-21, the Government has provided ₹40.00 crore under this project and expenditure of ₹23.50 crore has been incurred up to December, 2020.

World Bank Aided Integrated Development Project for Source Sustainability and Climate Resilient Rain-fed Agriculture:

- The World Bank has agreed to support this project at a cost of ₹650.00 crore titled ‘Integrated Project for Source Sustainability and Climate Resilient Rain-fed Agriculture’. The funding pattern of the project is 80 per cent loan and 20 per cent is State share. The project period is 7 years. The project would be implemented in 900 Gram Panchayats in Shivalik and Mid Hills agro-climatic zones spread across various watershed in the State. The key objectives of this project include 103 comprehensive treatment of around 2 lakh hectares non-arable and 20,000 hectares arable lands; and enhancement of water productivity/ efficiency, milk production and livelihood improvement in the project area. An outlay of ₹50.00 crore has been approved under this project during the current financial year out of which expenditure of ₹31.16 crore has been incurred up to December, 2020.

Environment Forestry and Wildlife:

- Himachal Pradesh is home to a very impressive, diverse and unique, rare fauna. The State’s scheme aims at protection, improvement of environment and wildlife, development of Wildlife Sanctuaries/National Parks and improvement of wildlife habitat, so as to provide protection to various species of birds and animals facing extinction. To protect, develop and scientifically manage the wildlife and to improve its habitat an outlay of ₹25.73 crore has been approved for the current financial year out of which expenditure of ₹4.52 crore has been incurred up to December, 2020.

Forest Ecosystem Services in Himachal Pradesh:

- During 2017-18, it was observed that the value of timber provisioning services is about 0.31 per cent of State’s GDP, while that of Non-Timber Forests Products (NTFP) Provisioning Services is 0.27 per cent of State’s GDP. The value of the carbon retention service obtained using a social cost of carbon approach during the year 2017-18 is equivalent to 11.14 per cent of State’s GDP, which is almost triple the share of the forestry sector in State’s GDP. The value of the carbon retention

service computed for the year 2017-18 is estimated as ₹15,532 crore. The State-level estimates of the economic value of these ecosystem services obtained have been summarised in below:

Table 7.17: Summary of selected ecosystem services from forests in Himachal 2017-18

Ecosystem services	Total value in ₹ crore	% of GSDP
1. Timber provisioning	429.24	0.31
2. Non timber forests resources	374.68	0.27
3. Carbon retention	15531.65	11.14
Total value of forest ecosystem services	16335.01	11.72



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