

## DIARY

No. 709

Date: 3-9-24

Govt. Degree Collge Chopal

No. 1406/B1  
H.P Forest Department.

Dated Chopal, the 2-9-24

To,

The Principal,  
Govt. Degree College Chopal Distt. Shimla HP..

Subject.-

Diversion of 0.9498 ha. of forest land in favour of HP Education Dept. for the construction of Govt. Degree College at Chopal, within the jurisdiction of Chopal Forest Division Distt, Shimla Himachal Pradesh.

Sir,

In continuation to this office letter No. 3115/G dated 25.03.2021 the revised bill is produce is as under for further necessary action at your please.

The Govt. of India has accorded in principal approval for the diversion of 0.9498 hectare forest land for the construction of Govt. Degree College at Chopal vide its letter No. FC/HPB/09/68/2021 dated 27.02.202.

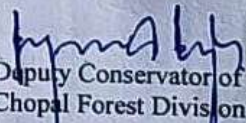
It is therefore requested to deposit the following amount within shortest possible period in order to comply with the stipulations of GoI enabling to get the proposal finally approved well in time.

Sl. No.	Particulars	Amount	Appropriate Authority
1.	NPV	10,15,782/-	Challan to deposit the compensatory afforestation NPV and Plantation charge on dumping area are only Generated through online portal and it is mandatory to deposit only through online portal.
2.	Penal NPV	-	
3.	Compensatory Afforestation	6,14,508/-	
4.	SMCP Bill	30000/-	
	<b>Total</b>	<b>16,60,290/-</b>	
5.	Departmental Charge	1,07,539/-	The amount may be deposited through demand Draft only on a/c of departmental charges in favour of Divisional Forest Officer, Chopal drainable in UCO Branch Chopal.
	Bill for Cost of Trees	61,13,058/-	
	<b>G- Total</b>	<b>78,80,887/-</b>	

Since the GoI has developed an e-payments module of forest clearance portal for remittance of compensatory levies, hence all the payment viz amount of NPV, CA Scheme contingency charge may be deposited through online forest clearance portal of [http:// forestclearancenic](http://forestclearancenic) through e-challan modes. The copy of UTR slip duly attested be submitted to this office after depositing the said amount along with a demand draft of departmental charges in favour of Divisional Forest Officer, Chopal drainable in UCO Branch Chopal.

In addition to above, you are requested to furnish an undertaking of point No. 3 & 5 of Principal Approval After depositing the above amount of NPV & CA necessary receipt be sent to this office which is required to be conveyed to MoEF Dehradun through proper channel.

It may please also be ensured that no work be executed at the proposed site until the final approval of the competent authority is obtained and conveyed to you.

  
Deputy Conservator of Forest  
Chopal Forest Division Chopal

Endst No. \_\_\_\_\_ Dated \_\_\_\_/03/2024.

Copy is forwarded to;

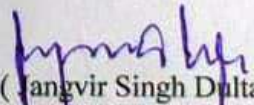
1. Nodal Officer -cum- APCCF (FCA) o/o Pr. CCF (HoFF) HP Shimla-1 for information pleases.

Deputy Conservator of Forest  
Chopal Forest Division Chopal

**CHECK LIST SERIAL NO:-17**

**Bill for compensatory afforestation scheme over 00-94-98 hectare forest land for construction of Govt. Degree College at Chopal, within the jurisdiction of Chopal forest division District Shimla HP.**

Area proposed for compensatory afforestation in hac.								01-89-96				
Name of the proposed plantation area								UPF Dhurla				
Total No. of plants to be planted								4806				
Rate per plant								32/-				
Plants to be planted per hectare								1100				
Particulars of works	Area in Ha.	Unit cost at wages structure per ha. for 2024-25 including plants cost	Total Amount Col 2x3	No. of plants planted 1 ha.	Total No. of plants planted (2X5)	Total amount of plants @ 28 of each plant	Total amount ( Unit cost+Plant Cost (4+7)	Year of execution of works	Cost escalation %	Amount of cost escalation.	Total amount (Col. 8+11)	
1	2	3	4	5	6	7	8	9	10	11	12	
Initial cost CA over an area of CA	1.8996	103900	197368	1100	2090	66866	264234	2025-26	10%	26423	290658	
1st year Maintenance	1.8996	12100	22985	330	627	20060	43044.9	2026-27	20%	8609	51654	
2nd year Maintenance	1.8996	8200	15577	220	418	13373	28949.9	2027-28	30%	8685	37635	
3rd year Maintenance	1.8996	4200	7978	110	209	6687	14664.9	2028-29	40%	5866	20531	
4th year Maintenance	1.8996	4200	7978	110	209	6687	14664.9	2029-30	50%	7332	21997	
5th year Maintenance	1.8996	4200	7978	110	209	6687	14664.9	2030-31	60%	8799	23464	
6th year Maintenance	1.8996	4200	7978	110	209	6687	14664.9	2031-32	70%	10265	24930	
7th year Maintenance	1.8996	4200	7978	110	209	6687	14664.9	2032-33	80%	11732	26397	
8th year Maintenance	1.8996	4200	7978	110	209	6687	14664.9	2033-34	90%	13198	27863	
9th year Maintenance	1.8990	4200	7976	110	209	6684	14660.3	2034-35	100%	14660	29321	
10th year Maintenance	1.8996	4200	7978	110	209	6687	14664.9	2035-36	110%	16131	30796	
			<b>Total</b>		<b>4805.9</b>						<b>585246</b>	
					<b>Contingencies charges @ 5%</b>							<b>29262</b>
					<b>Total</b>						<b>614508</b>	
					<b>Departmental Charges 17.50%</b>							<b>107539</b>
					<b>G. Total</b>							<b>722047</b>

  
 ( Jangvir Singh Datta, IFS)  
 Deputy Conservator of Forests,  
 Chopal Forest Division Chopal

**Name of Work: - Construction of Govt. Degree College Building at Chopal, District Shimla HP.**

**CALCULATIONS OF THE NET PRESENT VALUE (NPV) OF THE FOREST  
LAND BEING DIVERTED**

In consonance to the order dated 28/03/2008 of Hon'ble Supreme Court of India in writ petition (Civil) number 202 of 1995, the Net Present Value of the forest being diverted is calculated as under:-

The Ecological Class VI includes the forest type found in the forest diverted. The average density of the forest is 0.12 i.e. open forests.

The Hon'ble Supreme Court has fixed NPV of Rs. 10,69,470/- per hectare for class VI eco-value, open forest hence the total value works out to be Rs. 10,15,783/- for 0.9498 hac of forest land being diverted.

  
(Ankit Kumar Singh, IFS)  
Deputy Conservator of Forests,  
Chopal Forest Division, Chopal

**Name of Work:- Construction of Govt. Degree College Building at Chopal, District Shimla HP.**  
**BILL FOR NPV**

Calculation of Net Present Value (NPV) of the forest land to be diverted under FCA.

1. Area being diverted.	:-	0-9498 hac.
2. Total trees in the diverted land.	:-	72
3. Trees below class- III	:-	56
4. Trees above and class- III.	:-	16
5. Conservation of trees below class-III trees into above class trees by taking 2 trees of up to class- III as one trees of higher class.	:-	-
6. No of trees in nil.	:-	-
7. If 400 trees above class- III per hectare then density.	:-	100%
8. Rate applicable for forest having density less than 10%.	:-	Rs. 10.69.470/-
9. Rate applicable for forest having density less than 10% of dense Forest Eco- Class VI	:-	Rs. 10.69.470/-
10. For 0-9798 hectare NPV Chargeable.	:-	Rs. 10.15.783/-
11. Total amount.	:-	Rs. 10.15.783/-

  
(Ankit Kumar Singh, IFS)  
Deputy Conservator of Forests,  
Chopal Forest Division, Chopal

**Name of Work:- Construction of Govt. Degree College Building at Chopal, District Shimla HP.**

**BILL FOR NPV**

Calculation of Net Present Value (NPV) of the forest land to be diverted under FCA for Construction of **Construction of Govt. Degree College Building at Chopal, District Shimla HP.**

1.	Area being diverted	0.9498 ha.
2.	Density	0.12 (Open forests)
3.	Rate applicable for forest having density below 10%	$0.9498 \times 10,69,470 = 10,15,782.606$ Or say Rs. <b>10,15,783/-</b>
4.	For one hectare NPV chargeable.	10,69,470/-

  
(Ankit Kumar Singh, IFS)  
Deputy Conservator of Forests,  
Chopal Forest Division, Chopal

# Soil and Moisture Conservation Plan



**Project title:-Diversion of 0.9498 ha of forest land in favour of H.P. Education Department Distt. Shimla, for the Construction of Govt. Degree College at Chopal Distt. Shimla, within the jurisdiction of Chopal Forest Division, Distt. Chopal H.P.**

**Forest area:- 0.9498 ha.**

**Non-Forest area:- 0.00 ha.**

**Total Area:- 0.9498 ha.**

**Soil & Moisture Conservation Plan in Chopal Forest Division for diversion area 0.9498 ha.**



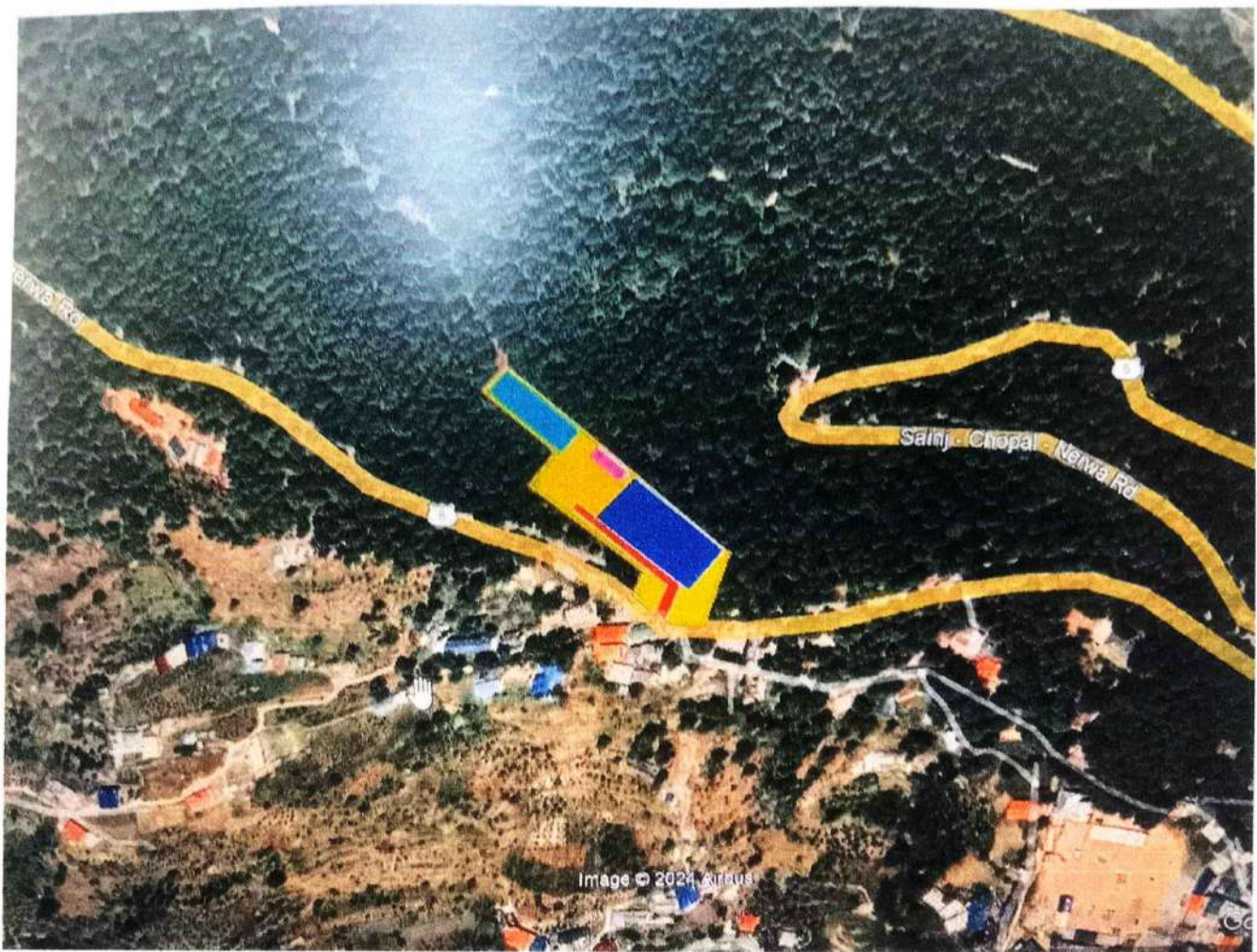
## **Soil and Moisture Conservation Plan**

**Diversion of 0.9498 ha of forest land in favour of Education Department Himachal Pradesh Distt. Shimla, for the Construction of Govt. Degree College at Chopal Distt. Shimla, within the jurisdiction of Chopal Forest Division, Distt. Shimla HP.**

### **Introduction:-**

Forest is the origin for the streams and rivers, therefore it is very important to conserve soil and moisture in its catchment area. The Department has started soil and moisture conservation works such as check-dams, gully plugging, and forest tanks (Van-Talao) movement in the late nineties which still continues. Soil and moisture Conservation works have become integral part of the Forest Development.

Soil Moisture Conservation works in the forest area marked for the plantation activity is carried on watershed basis. This approach is aimed at enhancing land productivity and to increase the soil moisture availability for a longer period. The main objective of soil moisture conservation is to minimize the amount of water lost from the soils through evaporation (water loss directly from the soil) and transpiration (water loss occurring through the plants) – or combined, the evapotranspiration. Preserving soil moisture is important means to maintain the necessary water for agricultural production, and also helps minimize irrigation needs of the crops. This is especially important in areas where rainwater and/or groundwater resources for irrigation are scarce or decreasing due to climate change or other causes. It is important that a Soil and Moisture Conservation plan should provide site specific prescription for the activities to be undertaken under each heading of the SMC Plan components.



### **General:-**

There are three component of the SMC in the catchment, namely

- a. Reforestation including plantation, rehabilitation, and agro-forestry development
- b. Non-structural measures: Land use regulation, public awareness for forest, livelihood assistance/poverty alleviation, etc.
- c. Structural measures: divided into two kind of work;
  - Catchment conservation works other than water harvesting structures; Those are implemented to minimize the soil erosion around the structures. In addition those are also implemented to prolong the life span of water harvesting structures.
  - Water harvesting structures: Check dams (construction of embankment)

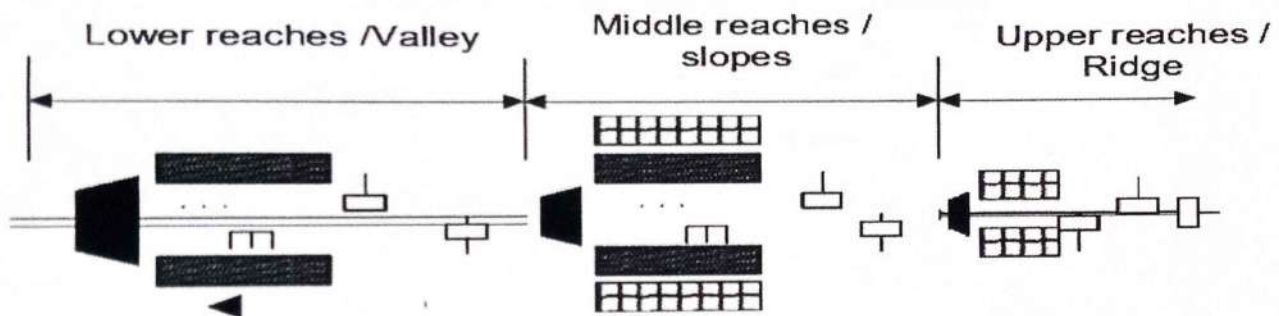
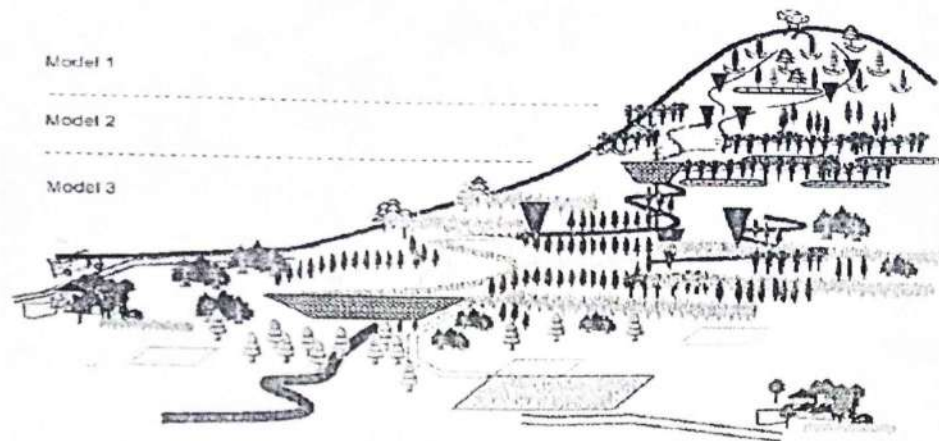
Since the Phase-I project, the structural measures of the SMC adopt integrated intervention, which targets the whole area from the upstream catchments so the downstream command area within the same micro watershed, for this purpose, three models, namely

- a) Model I (intervention in upstream parts)
- b) Model-II intervention in the middle parts of the micro watershed)
- c) Model-III, (intervention in the downstream command area) were developed to be adapted.

Brief of three models are described table below:-

**Brief Description of Tree Models of Structural Measures**

<b>Model Name</b>	<b>Terrain Conditions</b>	<b>Major Installation Structures</b>
Model-I Intervention of the upstream part	<ul style="list-style-type: none"> <li>• Narrow valley</li> <li>• Steep slope (more than 20%)</li> <li>• small catchment less than 5 ha.</li> </ul>	<ul style="list-style-type: none"> <li>• Plantation with staggered contour trenches.</li> <li>• Plantation with half-moon terraces staggered contour trenches.</li> <li>• Mulching</li> <li>• Embankment: small earthen check dam</li> </ul>
Model-II Intervention of the middle parts of the micro- watershed	<ul style="list-style-type: none"> <li>• Narrow valley</li> <li>• Steep to moderate slop (10-20%)</li> <li>• Small catchment less than 10 ha.</li> </ul>	<ul style="list-style-type: none"> <li>• Plantation with half-moon terraces</li> <li>• Gully plugging Bench terracing</li> </ul>
Intervention for the downstream command area	<ul style="list-style-type: none"> <li>• Wide valley</li> <li>• Gentle slope (less than 20%).</li> <li>• Small Catchment less than 20 ha.</li> </ul>	<ul style="list-style-type: none"> <li>• Gully plugging Contour binding Bench terracing plantation along water body, rivers and stream bank</li> <li>• Mulching</li> </ul>

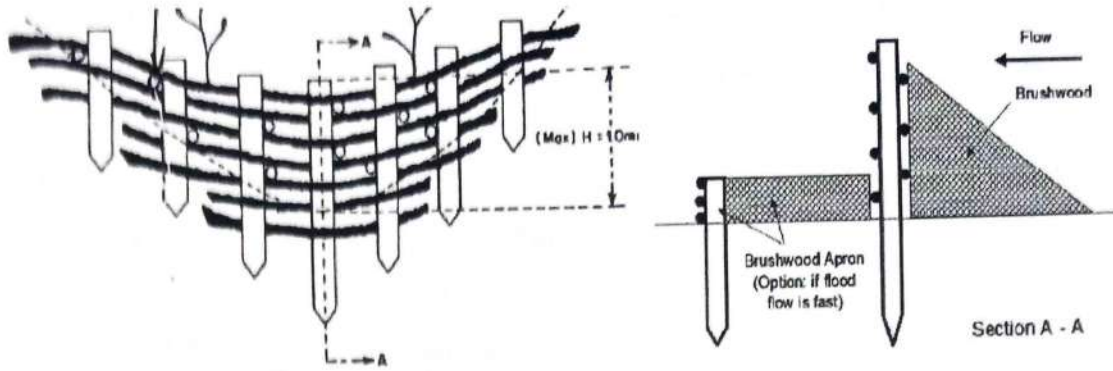


### **Gully Plugging Works:-**

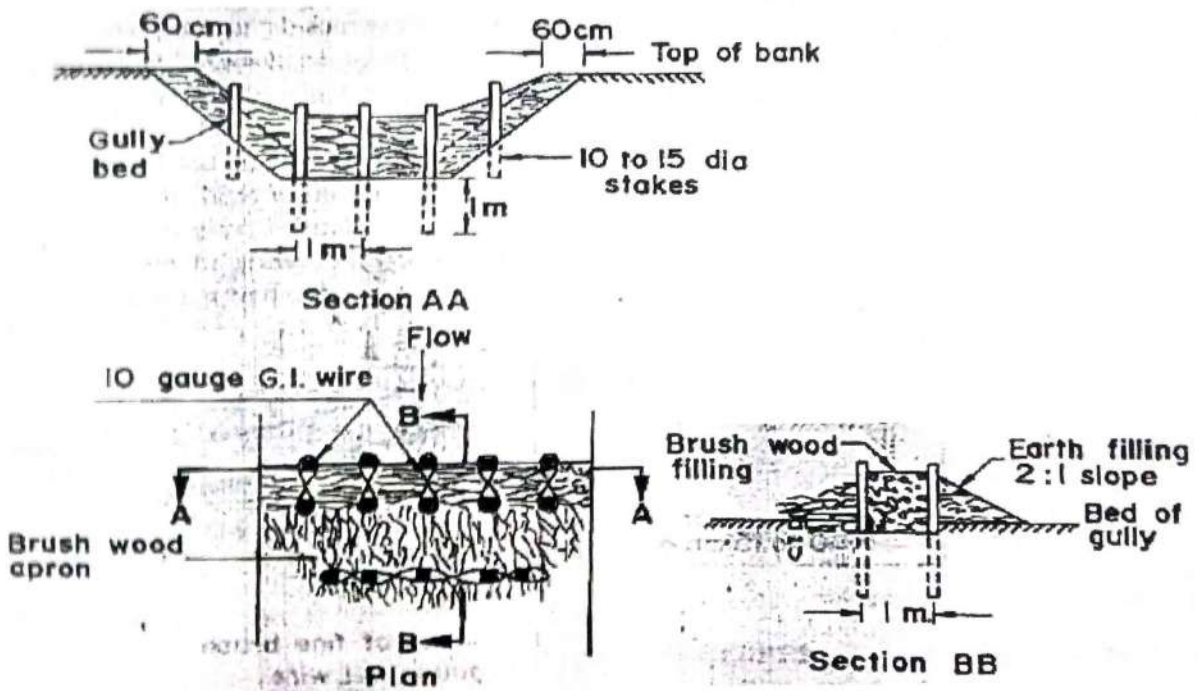
The gully plugging work are the barriers installed across the gully to reduce the runoff velocity of the gully, to retain the sediment behind them, and to reduce the gully erosion of the micro watershed. The gully plugging work consist of the barrier and the optional downstream and upstream aprons. The following structures are used as the barriers:-

- a. Plantation work by bamboos (for small and narrow gullies)
- b. Brushwood check dam (Single or double row post)
- c. Small earthen check dam (Semi-permanent check dam)
- d. Stone check dam

**Single row brushwood check dam**  
**(Design of Measure Work in gully plugging)**

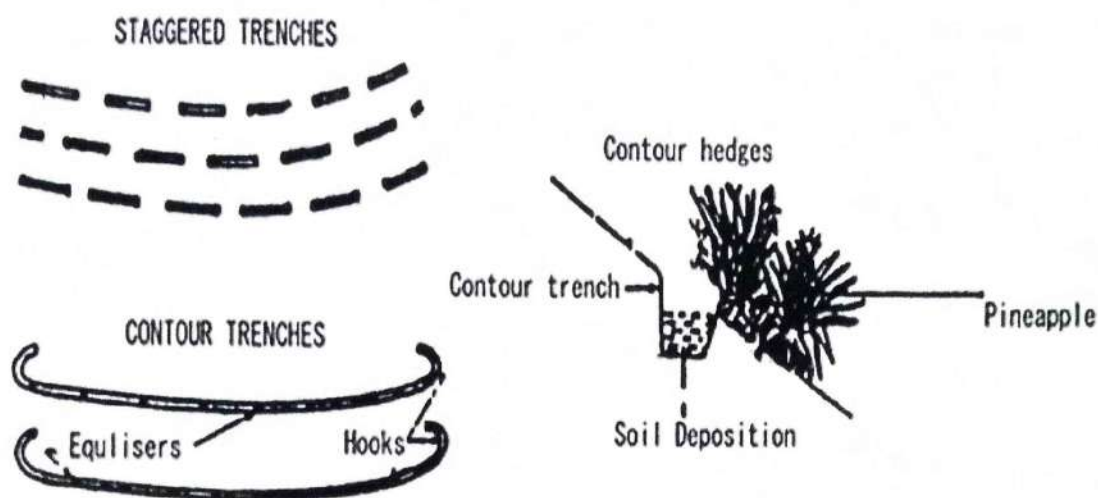


**Double rows brushwood check dam**  
**Design of Measure Works in Gully Plugging**



### Contour Trench Work:-

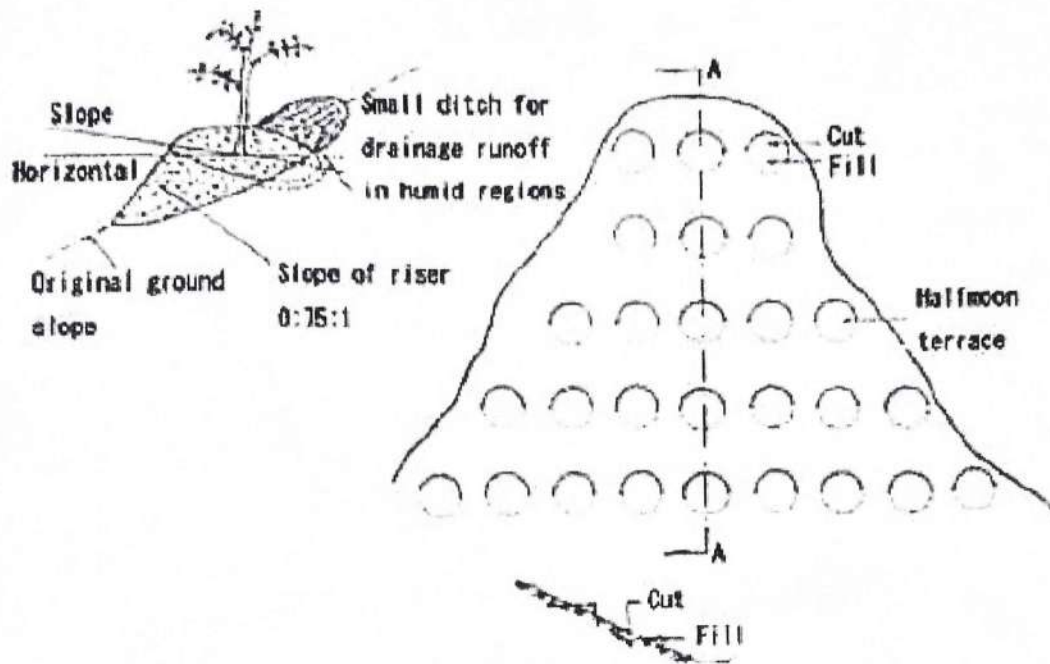
The contour trench works are the method of constructing the trenches along the contour lines of the slope with 10-30%. Objectives of the trench works are to retain water and sediment on the slope, to increase the water infiltration, to improve local soil moisture, and as the result, to reduce the runoff discharge and sediment to the downstream watershed. There are three (3) types of the contour trenches, that is, continuous trenches, and interrupted (line and staggered) trenches. The continuous contour trenches are essentially used for moisture conservation in low rainfall areas.



### Half-Moon Terraces:-

On the moderate slopes (10-20%) and steeper slopes (>20%), half moon terraces (60 cm diameter and 30 cm in depth) are to be established for water harvesting purposes around the ridge of hills. Economic tree species, NTFP species and other species are to be planted in the basins. The potential sites of the half-moon terraces are the slope around the ridge of hills, in which the planting is difficult due to steep slope. The representative design and technical specifications are shown in Figure:-

### Design of Half-moon terraces



### Mulching:-

Mulching is a SMC practice in which a covering of cut grass, crop residues or other organic materials is spread over the ground between rows of crops or around the trunks of trees. This practice helps to retain soil moisture to intercept the direct impact of raindrops on bare soil to reduces runoff and soil loss, top revents weed growth, to reduces labor costs of weeding and enhances soil structure. The application of the mulching depends on locally available materials. If the materials are available, plantation with mulching shall be applied.



### **Objective of Study:-**

The broad objectives for preparation of Soil and Moisture Conservation are outlined as under:

- i. Checking soil erosion and land degradation by taking up adequate and effective soil conservation measures, both engineering as well as biological, in erosion prone area (mainly under very severe and severe erosion intensity categories)
- ii. Rehabilitation of degraded forest areas through afforestation and facilitation natural regeneration.
- iii. Rehabilitation of degraded slopes and landslide areas.

### **Soil Erosion:-**

Lack of vegetal cover is contributing factor for accelerated soil erosion in the tract as also for environment degradation. While ideally, dense tree cover or forests would have been the best insurance against soil loss and environmental degradation, the condition in the tract are otherwise, large area are either blank or bear thin tree crop. The lower reaches of the tract along the river are generally barren and devoid of any tree growth. The good forests are defined to upper reaches. Thus these natural conditions are all limiting factor in addressing the problem of soil erosion and environmental degradation. Nevertheless remedial measures can be undertaken minimize their impact to some extent.

### **Slope:-**

The slope has a great influence on the soil and water loss from the area and thereby influences the land use capability. The slope determines the erosion susceptibility of the soil depending on its nature. The helps in classifying various lands in suitable capability classes which enables us to formulate suitable conservation measures for the prevention of soil erosion. The degree slope was divided into different slope classes as per Soil and Land Use Survey of India (SLUSI). Total length of breast wall=2500 meter

1. Construction of Hillside paved shoulder with PCC M20 on the entire length of the road.
2. Gunting concrete surface with cement mortar at various land slide prone areas.

### **Environmental Benefits:-**

- a. The benefits of many soil conservation methods, depending on the material used, may also include better control of weeds, provision of additional nutrients to the soil, soil temperature control and protection of soil surface from the impacts of heavy rain and wind.

- b. Active reuse of waste organic materials also reduces waste management needs, returning the residue crops and plants to the soil through decomposition. Socioeconomic Benefits.
- c. Potential to reduce water irrigation needs, increase crop productivity and improve soil quality.
- d. By extension, reduced irrigation needs may also reduce the costs and energy requirements of water pumping for irrigation.

**Land cover:-**

For the preparation of land use/land over classification of the catchment area, forest cover data for the year 2017 has been procured from Forest Survey of India (FSI) has classified the area into five classes viz very dense forest, moderately dense forest, open forest, scrub land and non forest. The forest cover is broadly classified in 3 classes namely very dense forest, moderately dense forest and open forest. The other classes included scrub and non-forest. These classes are defined as below:

- a. Very Dense Forest: All Lands with tree cover of canopy density of 70% and above.
- b. Moderately Dense Forest: All lands with tree cover of canopy density between 40% and 70% above.
- c. Open Forest: All lands with tree cover of canopy density between 10% and 40 %
- d. Scrub: All forest lands with poor tree growth mainly of small or stunted trees having canopy density less than 10%.
- e. Non Forest: Any area not included in the above classes.

All the classes except non forest classified by FSI were used as it is and the non forest area was further classified into grazing land, agricultural land, settlement, barren land and water body. These classes are defined as below:

- a. Agriculture Land: These are the lands primarily used for farming and for production of food, fiber, and other commercial and horticultural crops.
- b. Settlement: It is an area of human habitation developed due to non-agricultural use and that has a cover of buildings, transport and communication, utilities in

association with water, vegetation and vacant lands, It consists of urban as well as rural areas.

- c. Gazing: These are the areas of natural grass along with other vegetation, predominantly grass like plants and non-grass like herbs. It includes natural/semi-natural grass/ grazing lands of Alpine/Sub-Alpine and manmade grasslands.
- d. Barren Land: These are rock exposures of varying lithology often barren and devoid of soil and vegetation cover.
- e. Water body (River): Rivers/streams are natural course of water flowing on the land surface along a definite channel/slop.



Principal  
Govt. Degree College  
Chopal, Distt. Shimla H.P



Deputy Conservator of Forests  
Chopal Forest Division

Abstract of proposed activities and financial outlay under wildlife conservation & Mitigation Plan and Soil & Moisture Conservation Plan  
Diversion of 0.9498 Ha. of Forest Land for Construction of Govt. Degree College at Chopal Tehsil of Chopal Forest Division

Activity	1st year	2nd year	3rd year	4th year	5th year	Total
	Fine. (Rs.)	Fine. (Rs.)	Fine. (Rs.)	Fine. (Rs.)	Fine. (Rs.)	Fine. (Rs.)
(D) Soil & Moisture Conservation	15000	6000	4000	3000	2000	30000
<b>Grand Total</b>	<b>15000</b>	<b>6000</b>	<b>4000</b>	<b>3000</b>	<b>2000</b>	<b>30000</b>



Principal  
Govt. Degree College  
Chopal, Distt. Shimla H.P.



Deputy Conservator of Forests  
Chopal Forest Division

Proposed Physical and Financial outlay under Wildlife Conservation & Mitigation Plan and Soil & Moisture Conservation Plan for												
Diversion of 0.9498 Ha. of Forest Land for Construction of Govt. Degree College at Chopal Tehsil of Shimla Forest Division												
Activity	1st year		2nd year		3rd year		4th year		5th year		G. Total	
	Phy	Fine. (Rs.)	Phy	Fine. (Rs.)	Phy	Fine. (Rs.)	Phy	Fine. (Rs.)	Phy	Fine. (Rs.)	Phy	Fine. (Rs.)
<b>(D) Soil &amp; Moisture Conservation</b>												
(i) Bio-engineering interventions for slope stabilization		3000		3000		2000		1000		1000		10000
(vi) Spur with crate wire		12000		3000		2000		2000		1000		20000
<b>Total</b>		<b>15000</b>		<b>6000</b>		<b>4000</b>		<b>3000</b>		<b>2000</b>		<b>30000</b>
<b>Grand Total</b>		<b>15000</b>	<b>0</b>	<b>6000</b>	<b>0</b>	<b>4000</b>	<b>0</b>	<b>3000</b>	<b>0</b>	<b>2000</b>	<b>0</b>	<b>30000</b>

*[Handwritten Signature]*

Principal  
Govt. Degree College  
Chopal, Distt. Shimla H.P

*[Handwritten Signature]*  
Deputy Conservator of Forests  
Chopal Forest Division