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Analysis of Narwa Restoration Plan

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ABSTRACT: Narwa (rivulets and streams) focuses on low cost water conservation structures such as test dams, gully controls, underground dykes at strategic places on water streams in order to make certain harvesting floor water and recharge of subsoil as well as groundwater. National watershed will at the same time execute the programed. The direct result will be an amplify in arable area with a double crop. This is most wished as only 1.8 million hectares are under Rabi in the nation – one-third of Khariff, in spite of enviable rainfall and a substantial internet of rivulets and streams Chhattisgarh is blessed with. Secondly, as 69 per cent of irrigation is dependent on groundwater, the absence of floor water conservation can lead to quick depletion of the treasured resource. Hence, Narwa, a scientific initiative. Besides, it's environmental-friendly with zero displacements of both flora or fauna. Moreover, it benefits the human beings and natural world alike in a country that has half of its topography covered with forests and nearly 34 per cent of human beings – the Scheduled Tribes, making forests their home.

KEY WORDS:

Nala Profile, Recharge Ground Water, Soil Erosion, Map Study, Gabion Structure.

1. INTRODUCTION

The Gondha Nala is also known as Bansankra nala. The first orders of nala start from kamta village which is also called as tumdi nala. It starting Cords is 21°37'51.75"N 81°44'45.62"Eand ending Cords is 21°41'8.73"N, 81°44'22.78"E. Nala is projected 5 km away from JP Simga and 55 km distance away from ZP Balodabazar-Bhatapara. It is a sub tributary of Chitawar nala.The whole topographical area comes under the Mahanadi Basin.

1.2 LOCATION OF NALA

Nala is situated to side of Janpad Panchayat Simga. Nala is crossing 3 GPs (Kamta, duldula, Bansankra) and three villages (Kamta, duldula, Bansankra). Model Gothan is found in village Bansankra.

SN	Points	Geo Tag reference of any permanent Asset nearby	Villages in the Path of the Nala	GPs in the path of theNala
1	Starting Point	Canal rapta near kamta(21°37'45.24"N, 81°44'44.93"E)	Kamta	Kamta
2	Middle	Check Dam (21° 40' 22.71"N,81° 44' 37.06"E)	Duldula	Duldula
3	Exit point	Check Dam (21° 40'57.33"N,81° 44'25.01"E)	Bansakara	Bansakara

2. MAP STUDY

The map may be a a charcterised depiction emphasizing relationships between elements of some space, such ,Many maps are static, constant to paper or another long lasting medium, while others are dynamic, or interactive. Although most in many instances accustomed depict geography, maps can also represent any space, actual or fictional, besides regard to context or scale, like in talent mapping, DNA mapping, or laptop community topology mapping. The space being mapped can also be two dimensional, just like the surface of the planet , three dimensional, just like the indoors of the planet, or even more summary spaces of any dimension, like occur in modelling phenomena. Although the earliest maps regarded are of the heavens, geographic maps of territory have a very lengthy subculture and exist from historical times. The phrase "map" comes from the Medieval Latin Mappa mundi, whereby mappa supposed napkin or fabric and mundi the earth. Thus, "map" grew to become the shortened term concerning a two-dimensional illustration of the bottom of the world

2.1 Contour Map:

A topographic map on which the shape of the land floor is shown by contour lines, the relative spacing of the lines indicating the relative slope of the surface.

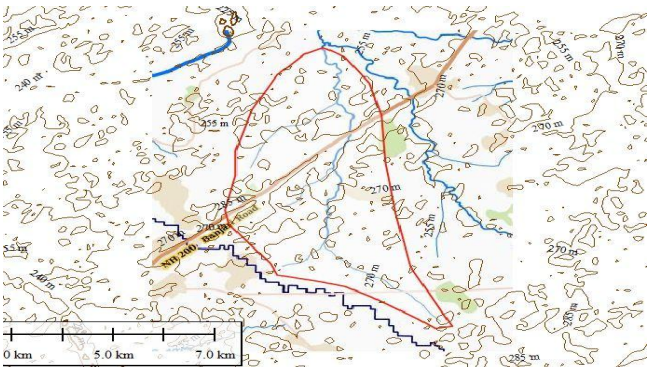

Fig 1: Contour map

2.2 Erosion Map

• Erosion or accretion of sand via wind motion is clear at some point of and soil genesis is truncated by using erosion or fossilised by using deposition.

• But the networks have scrambled to carry them on the air for a few other year in an attempt to stem audience erosion.

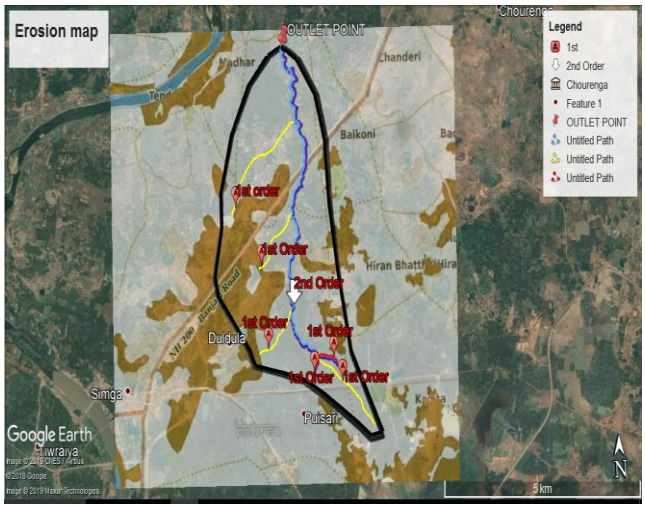

Fig 2: Erosion map

3. CHECK DAM

A check dam could also be alittle dam built throughout a ditch, swale, or channel to decrease the speed of flow. Reduced runoff velocity reduces erosion and gullying within the channel and permits sediments to settle out. A check dam also can be constructed from stone, sandbags full of pea gravel, or logs.

3.1 Applicability

Check dams are often used where temporary channels or permanent channels aren't yet vegetated, channel lining is infeasible and velocity checks are required. This practice could even be used as a brief lived or emergency measure to limit erosion by reducing flow in small open channels.

This practice should be used with drainage areas of two acres or less. Check dams could even be used:

• To scale back flow in small temporary channels that are present undergoing degradation,

• Where permanent stabilization is impractical because of the temporary nature of the matter,

• To scale back flow in small eroding channels where construction delays or weather prevent timely installation of non-erosive liners.

3.2 GOBION STRUCTURE

A gabion wall is a retaining wall made of stacked stone-filled gabions tied collectively with wire. Gabion partitions are commonly battered (angled returned toward the slope), or stepped back with the slope, instead than stacked vertically. Gabion is a welded wire cage or field filled with substances such as stone, concrete, sand, or soil. So, gabion is a partially flexible block development used for slope stability and erosion protection in construction. Various kinds of gabions are built and used in different engineering constructions. Sometimes, stay rooting branches may also be positioned between the rock-filled baskets which improves sturdiness and steadiness of the gabion. This article offers gabion definition, types, applications, and advantage.

4. PERCOLATION TANK

The downward movement of the water through the soil thanks to force of gravity is termed as Percolation. The percolation water goes deep into the soil until it meets the free water level. On the one hand, thanks to rapid percolation, there's practically no danger of soil affected by bed drainage, but on the opposite hand, there's an opportunity of the dissolved and mixed with plant elements like calcium and magnesium being carried deep into lower layers and depositing

Beyond this growth of the roots of common field crops.

In sandy or open textured soils there's a rapid loss of water through percolation.

The flow of water thanks to gravity is extremely marked when the soil is during a saturated condition, and usually the direction of such flow is downward, although a

The larger pores i.e., the macro-pores function the most channels for this gravitational flow.

5. SCOPE AND RESULT

5.1 Recharge Ground Water

Ground water recharge consists of recharge as a natural phase of the hydrologic cycle and human-induced recharge, both without delay thru spreading basins or injection wells, or as a end result of human activities such as irrigation and waste disposal. Artificial recharge with extra floor water or reclaimed wastewater is increasing in many areas, as a result becoming a extra essential element of the hydrologic cycle**.**

a. Irrigation water requirements increase

b River discharge decreases or its temporal variability increases, so that the reliance on floor water goes down

5.2 Irrigation

In this project we have more benefits of irrigation which help to farmer

5.3 Result and Discussion

In this study, a series of steps were completed for investigating the rainwater harvesting potential to improve the farming system at a small watershed in the rigid and

slope area of Simga Chhattisharg. The steps of investigation included rainwater potential for harvesting, suitability of water storage, efficiencies of pumping from the reservoir and aquifer, performance of different crops cultivated. All those steps have been discussed in the following sections.

6. CONCLUSIONS

The study shows that there is high potential for rainwater Storage during rainy season and subsequent use of harvested water for land irrigation and suction mode with a low capacity. The findings of the study can be useful for the agriculture of the tropical climate zones around the globe. The improved water supply system can facilitate triple cropping system for v land and permanent horticultural intervention. The perennial vegetation is increase would also act as a soil and water conservation practice. Perennial vegetation is considered as a best management practice to reduce sediment and nutrient loss from farming. Yield, water productivity and benefit–cost ratio of various crops studied were reasonably good. Vegetables isproduced with high water conservation productivity compared to grains and horticultural crops, but horticultural crop returned higher benefit–cost ratio followed by vegetables and grain crops. As per demand of possessor, choice of crops cultivation may be optimized from this study. Up scaling of the practices can bring the vast hilly region under sustaining cultivation, which will improve livelihood of the local farmers. The study can provide recommendation for appropriate policy guidelines for future development of farming in similar regions to maintain healthy environment and ecological balance

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