

## How green was my valley

By Dani Sulu

### *Prologue: Paradise entered*

If you had closed your eyes and cared to travel back to the yonder days of 1944, and took your steps along with the first explorers and anthropologists who entered the forbidden land of Tanw country, you would have had to walk down from the rims of tenderly formed hills and along the gentle slopes into a paradise which the nature herself had sculpted with her caring hands. The whole valley had look of well-tended garden with neatly manicured lawns and hedges, untouched by the magics of modern science and lifestyle. The hills, that stood as sentinel, hiding away a civilization untouched for thousands of years by outside world were thick with vegetation and adorned with rhododendron blooms and cherry blossoms, that dotted prettily the gentle slopes that formed up deep and high into the mountain.



You might, as well put your foot soft and tender so as not to disturb the nature tended delicate garden of plants and ferns and stopped by to feel the magic of primulas in it's full bloom yielding tenderly to the touch of gentle wind

in the meadows that lay where the hill met the fertile fields of Tanw country. This was yet to be explored and recorded Tanw civilization where time stood still. It sat pretty and well ensconced in lap of nature. The village settlements were in the uplands of the valley while the lower lands were agriculture land where paddy was cultivated. The kitchen gardens and bamboo gardens were established next to the households. And if you had gone into the village and walked towards the far off fields and hills, you would be walking on the paddy field bunds where millets were planted along with maize, pumpkin and cumber plants. A look to the left and right would have revealed vegetable gardens and millet fields in the upland that dotted in between the paddy fields like a baby islands.



Here, as you ventured little further, you would have found the hills that sloped up was full of grazing grass where the mithuns and cows leisurely grazed. The immediate hillsides and the hillocks that jutted out of valley was devoid of any big trees and was one big swathe of grass land. Beyond the grazing ground lay the sansun (individually owned forest) which was used for emergency firewood and house construction materials and then beyond it the thick and untouched forest lay majestically abounding in wild life and birds that provided much needed protein supplements and tested the masculinity of each Tanw man. The valley was rich in agriculture practise, hundreds of clear rivulets and the streams flowed in the meadows and watered the paddy fields. The natural

water springs that were in abundance along the foothills quenched the thirst of hard-working farmers and the animals alike. The grass land and the big treed forest was rich in flora and fauna. Such was the paradise hidden among not so forbidding gentle hills of Ziro. With advent of British India deputed explorer and anthropologists, the nature's own sweet little hidden paradise reluctantly and hesitatingly opened herself to the outside world. Henceforth, the people of Ziro had to march on with rest of the world for better or for worse. No longer could it thrive and prosper and bask in the glory of it's untrammelled beauty and unmired innocence. Marched, Tanw people did, but where to, is still to be seen.

### ***Introspective Deliberation: Paradise lost***

The Ziro Valley as one sees today is quite different from the sight that the earlier travellers found prior to 1970s. The wide-open grass lands and community grazing lands have been fenced and has become pine groves and bamboo garden. It looks greener and fresher outwardly. But beneath the green foliage, the ground is turning dry, the natural springs have dried up and most of the small-small streams that irrigated the paddy fields have disappeared leaving agriculture fields dry and perched. The people of Ziro have started re-thinking on the need to green up Ziro landscape by supplanting monocultured and baren Pine Tree. All that is green is not clean can be aptly said of mass plantation of Pine Trees that cover the surrounding landscape of Ziro Valley.



While discussing on how green was my Ziro Valley, stopping by to ponder on pine tree plantations and its effects on economic, environment, aesthetic aspects of will be my first port of call. It will be interesting to examine how the government policies and programs have affected the environment.

Economic aspect of Pine Tree plantation.

a. During the 1960s and 1970s, many people took to pine tree plantations as a future source of economic security. It was expected that at the time of need of cash, a villager could sell their pine tree and earn much needed cash for their children's education and medical needs. The results of Pine Trees planted during 1960s and 1970s are seen today. It will do us good to examine the economic aspect of growing pine trees. An average pine tree covers around 30 sq mtrs of ground area. In one hectare of land, around 330 pine trees can be grown. If each tree is sold for around Rs5000.00, then the 330 trees will be sold for Rs18,50,000.00. Now, consider if the owner decides to sell the one of hectare pine tree after 50 years, he will earn Rs18,50,000.00. This means the person earns Rs37,000.00 per year from one hectare pine grove.

b. Now compare this with Kiwi plantation, that can occupy 400 plants per hectare and with produce of average of 40 kg per plant, one-hectare Kiwi plantation will yield 16,000 kgs. If a kilogram of Kiwi is sold for Rs70.00, then the farmer stands to earn Rs11,20,000.00 in a year starting from third year itself.

c. Further, let us compare with a modern dwarf type of temperate apple plantation. Around 1000 temperate dwarf type apples can be planted in a hectare and in an average, each plant yields around 40 kgs annually. Now, if the harvested apple costs around Rs70.00 (conservatively calculated) per kg, then the per hectare yield will be  $40,000 \text{ kg} * \text{Rs}70.00 = \text{Rs}28,00,000.00$  lacs annually from the third year of plantation.

d. From the above analysis, one can easily gauge that it is economically more viable to cultivate horticulture crop in place of pine trees. Even cultivation of firewood trees like Kwra (chest nut) and rwmey tree which matures within five to ten years is economically more viable. Even a person with one hectare Bamboo Garden , earns around Rs30,000.00 to Rs60,000.00 in a year.

e. Hence, it will do good for average Tanw person who is hardworking in a normal way of taking care of their bamboo garden and pine groves to shift from

pine tree cultivation in the erstwhile grazing grounds to horticulture cash crops. The apple, kiwi, peach and plums are endemic to Ziro environment and grew naturally in its wild form from time immemorial. Their cultivation will not be harming environment.

Environmental aspect of Pine Tree cultivation.

a. The Pine Tree is monoculture species. It doesn't allow any other tree or plants to grow in, under and around it. Nor does it support existence of various birds and animals as they don't find any feed either on the pine tree itself or in its under growth. Hence, it doesn't support rich biodiversity wherever it grows in groves and dominate vast area. With the growth of pine plantation coverage in Ziro, the varieties of birds and animals that used to visit and enrich Ziro environment and forest areas have come down drastically.

b. The Tanw farmers often complain that they cannot cultivate any vegetable or rice or for that matter bambbo or any fruit bearing trees wherever pine trees are around. They also complain that land around pine tree plantation becomes dry and brittle.

Hence, the unplanned pine tree cultivation is harmful for biodiversity and also for the agriculture practise.

Ritualistic aspect of Pine Tree Plantation.

The pine tree is an important and an inalienable part of Tanw rituals, culture and tradition. As per the legends and folklores, it has accompanied Tanw society throughout its migration route. Pinewood in small quantities is used in almost all the big and important rituals and festivals like Myoko, Murung, Subu etc. Its uses are more of a symbolic and ritualistic requirement than necessity in huge quantity. The Tanw society of olden times were content with cultivation of one or two pine trees in their Bamboo gardens and forests rather than going for mass plantation.

Aesthetic aspect of Pine Tree Plantation.

Today, the pine clad hill sides of Ziro Valley is one of the mesmerising attraction of Ziro Valley. It gives a look of green and serene natural beauty.

However, it may not always be right to view the hills adorned with Pine Trees within the definition of natural beauty. The Ziro is at its charming best when the hills are adorned with varied hues of colours of different flowers of wild apples, peaches, cherries and berries during March and April. The naturally tended forest landscape before the commercially driven pine plantation was much more greener, cleaner and beautiful in its natural settings.

Traditional aspect of Pine Tree plantation.

a. The practise of cultivation of Pine Tree plantation was not practised by Tanw people prior to 1960s and 1970s. The pine trees grew in wild and also common forest areas. A few pine trees were planted and allowed to grow in Bamboo groves.

b. Since, Pine Trees did not have much of economic and firewood value, and was harmful for other crops to grow, pine tree growths were well controlled.

c. The pine clad hill sides near the valley, which we see today was a lush green grass land and grazing grounds prior to 1960s. These places like Dolo Mando Hills, Pwsapu putu, Kwle Pakhi area, Manipolyang-Dilo polyang, Aifu hilloks, Byou Tari etc which is adorned with pine trees today were common grazing land for the cattles and green grass abounded there.

d. During the winter, after the cows had grazed, it was burnt so that new shoots of grass would grow up by spring which provided abundant cattle feed in the summer.

e. All these public open grasslands were encroached by individuals and turned into pine tree groves during 1960s and 1970s. This mad rush of encroachment and pine plantation led to unplanned plantation and alteration and destruction of natural vegetation, which has led to Ziro facing acute water scarcity. The rich biodiversity has been adversely affected besides losing out a vast open grass land where cattle could roam free and graze and young man could hunt and lay traps for animals, birds and rodents.

### **Role of Community, Individual and Forest Department in environment management of Ziro Valley:**

a. The degradation in the well-preserved natural environment in Ziro Valley coincides with hurried and sudden setting up of Department of Forest by Government of Arunachal Pradesh. It, instead of facilitating individuals and community towards forest management, encroached on the tribal forests en-

mass, and alienated the original owners of rivers, forests and lands which the people and hundreds of generations before them had owned, tended and roamed freely. With the government sanctioned encroachment of their land by Forest Department, they were treated and viewed as illegal intruders and thieves when they entered their own traditional land for firewoods and subsistence hunting. In one stroke, Government had tried to disconnect centuries old physical and emotion bonding between the people and their land, water and forests. The sense of belongingness was tested to the limit.

b. The forest department, perhaps with best of intention changed the landscape of traditional land and forestry management in many parts of Arunachal Pradesh. It is for all to see that almost none of the reserve forests of Department of Forest thrives today. The individual/community owned forests survives and thrives with rich wild life even today. A Wild Life Sanctuary here and patches of Reserve Forest there only survives, that too in a fledgling way.

c. The forest department took to rampant plantation of trees without considering its environment effects, whether it is endemic to the place or whether it will turn out to be invasive specimen and supplant local vegetation.

d. In the vicinity of Ziro Valley, the swath lands of jhoom cultivation were planted with pine trees which destroyed its natural flora and fauna. The traditional jhum cultivation was quite scientific. A patch of land was slashed, burnt and cultivated and then left to regenerate in its natural way supporting its natural flora and fauna. In such a state, there was no scarcity of water and the springs and streams flowed freely.

e. The forest department started planting pine trees and eucalyptus all around which led to dominance of monoculture tree species and destroyed the original vegetation and habitats of animals and birds.

f. However, there seems to be a ray of hope with younger generation of forest officers taking more pragmatic and practical way of forest management and environment preservation. They are shifting away from rampant plantation and greenisation without consideration of its long term environment effects to need based and environment friendly greenisation of degraded forest lands.

g. The Ziro Valley was no exception to onslaught of overzealous forest department since 1960s and 1970s. The environment degradation of Ziro forest area began with mass plantation of pine trees in erstwhile lush green open grass lands that acted like a buffer zone of water retaining land between the

surrounding mountain and the paddy field in the valley. With increase in the number of pine trees in the foothills, the spring dried up, the fields dried and became infertile, the cattle lost its grazing land, the birds and animals lost its natural habitat.

h. Today, the positive development is that there is less government intervention, more realisation of people on adverse impact of rampant pine tree plantation. More people are shifting to cultivation of more water retaining trees and cash crops with a goal of sustainable development which is also environment friendly.

### **Epilogue: Paradise retained**

Everything that is green is not clean and all that looks beautiful to eyes might not be environment friendly. The Ziro Valley of pre 1980s had less trees in the foothills but more green grass, water, animals and birds. It was rich in bio diversity, rich in water and rich in fertile land. Today, hillsides appear greener and more beautiful, but it is devoid of biodiversity and natural spring waters, the streams that irrigated the fields have dried up.

The unscientific and rampant pine tree plantation has brought Ziro Valley to this sad state of degraded environment. It needs to be controlled and the land has to be once again returned to more environment friendly habitat for diverse flora and fauna to flourish. The pine trees need to give way to the natural and diverse vegetation. The horticulture growth should be encouraged along the foothills which was once a grazing ground and now pine groves. It will help in water retentions and give aesthetic looks and economic support and also support birds and other insects. The rampant tree fellings and timber activity at higher reaches of jungles needs to be strictly regulated. The planting of the naturally growing trees like salyo(teetha chap), sampre (Mekai) etc needs to be encouraged as it is home to many birds and animals and also provides very good quality timber. Today, every village in Ziro has a village level bio diversity society, besides voluntary youth organisations dedicated to protect their forests. They need to be encouraged to preserve the flora and fauna of their respective forests.





The Ziro valley has a very limited land and the resources are scarce. The ancestors of Tanw society have used it's every inch of land judiciously that gave optimum product per an area in economic terms and also one that was environment friendly. This practise needs to be carried on by the present and coming generation by aligning with modern development and requirements. The fragile environment of Ziro demands a more responsible environment management. People's every commercial activity should also be aimed to enrich the land and water resources where the lofty hills of Ziro meets fertile fields of Ziro Valley. Let no future generation dream and lament, how green was my valley. Let the green, that is clean and beautiful be today, tomorrow and remain for all the time to come.

(To be continued..)

Dani Sulu

Secretary to Government of Arunachal Pradesh

Dated Itanagar the 5<sup>th</sup> August 2021

Photos :- Courtesy to Shri Koj Mama and Shri Gyati Habung from their social media updates.

**NB:- This article is penned in my personal capacity and doesn't reflect the official position of the government post that I hold at the time of writing. )**

