Hurricane Kenna Hits Nayarit

26 October, 2002

It's mid-morning on the day after Hurricane Kenna hit Nayarit, and Beto and I are heading for El Malinal, dreading what we might find. Beto is certain that he's lost most of his avocado crop, but he has no idea of what may have befallen the coffee, and the horrific pictures of Puerto Vallarta and San Blas that we saw on the morning news in Tepic have lent little comfort.

Tepic has fared relatively well—there is nothing of the destruction that has occurred in the coastal towns. It is as if the volcanic mountains on either side of the city deflected the storm up and overhead. The few hours of intense, gusty winds at Beto's house on the south side of Tepic did little more than lift portions of a few roofs, knock down some trees, and bend over the occasional billboard. For all its ferocity, the storm passed Tepic quickly and there is much less damage than expected.

Now, on the outskirts of Xalisco, where the road to El Malinal begins, we come upon Pablo Avalo Becerra, a coffee grower from El Malinal, waiting next to his pickup truck with one of his sons. Pablo has been waiting for several hours. He tells us one other group has headed up the road ahead of us, but as yet no one has arrived from the other direction. He has decided to wait to make sure the road is open before he starts the trip.

The road to El Malinal winds 23 km through a nature preserve. Only the first few kilometers are cleared—the rest is forest. There are no towns and no facilities along the way. Beto and I look at each other as we head up the road; it may be that Pablo is a lot smarter than we are.

The lush cane fields just outside of Xalisco are now lying flat, their borders dotted with broken and toppled trees. There are eerie patterns in the trampled stalks of cane, as if giant swirls of wind simultaneously depressed and flattened them. The air is still and heavy with moisture, yet clear. The saturated colors of the sodden landscape lend the somber view a strange beauty as we begin the long climb over the south limb of Volcán San Juan and towards El Malinal.

As we enter the forest, we see trees down all around us. Clearly, the terrain controlled the path of the wind. Individual trees were downed in one direction here and another direction on another hillside. Here and there sparse groups of trees were knocked down; it is as if God decided to decimate his legions of trees, indiscriminately taking every tenth one. Our path along the road winds through the cut trunks of those trees felled across the road; there is no doubt that the person ahead of us has a good chain saw.

Strangely, as we cross over the last ridge of San Juan at 1600 meters and begin the descent toward El Malinal, the storm damage does not increase; if anything it diminishes as we approach the town. Surprised and pleased, we continue on. As we pass into the upper reaches of the coffee growing regions, it is clear that the shade trees have done what they are intended to do: protect the coffee. Here and there, a shade tree is damaged or blown down, but the cafetos (coffee plants) appear to be healthy and undamaged.

Wow! Payday! Here, the coffee grower collects his reward: a direct payment from his "shade tree insurance policy". The shade tree canopy is an "umbrella policy" covering a number of losses. Windstorm loss is only one of them. Loss from drought is another; the shade trees deflect the heat of the sun and help to keep the soil from drying out. There is also frost damage; the shade trees reflect the heat of the earth back down toward the cafetos and shield them from the cold of space. The umbrella also covers erosion. In these steep, mountainous areas, loss of soil and nutrients requires expensive fertilizers and supplements to replace.

Use of the shade canopy umbrella policy also results in a tremendous increase in biodiversity as compared to “uninsured” mono-culture agricultural systems such as those used in technified coffee growing regions of the world. Robert Rice, of the Smithsonian Migratory Bird Center, estimates that rustic shade-ecosystems like the one at El Malinal have 80 percent of the biodiversity of a natural forest. This means there is excellent habitat for birds and other creatures that help maintain a natural balance that greatly reduces the need for pesticides.

Coffee growers who maintain a rustic shade canopy over their cafetos pay for their umbrella policy with lower yields. This is cheap compared to the risk of bankruptcy these small shareholders face if they choose the technified route to success.

We stop frequently to asses the situation first-hand as we continue our trip toward El Malinal. The only damaged cafetos are those that were actually hit by falling limbs or trunks of shade trees that were blown over. There are also areas with fewer shade trees where the terrain focused the wind, and some fruit and leaves were lost. Based on what we see and his knowledge of the area, Beto guesses that the coffee lost to the storm is less than 5 percent, perhaps as low as two or three percent. Miraculous!

El Malinal is nestled in a mountain valley. As we approach the town, it becomes apparent that some combination of its location and the surrounding trees protected it from severe damage; roofs are bent but no buildings were knocked down. San Blas, which can be seen 32 km (20 mi) away, and 1000 m (3200 ft) lower, through the unnaturally clear air, is flattened, but El Malinal was merely battered. Power and telephones are out, and people are already cleaning up the mess and making repairs to their homes.

We discuss the situation with Lucio Miranda, President of the production sector of the Malinal Ejido (cooperative) and he confirmed Beto’s earlier assessment, little of the coffee is damaged. Other crops are another matter: lemons, oranges, and grapefruit are damaged, but not severely. Avocados were hit the worst of all, the heavy fruit being torn from the trees; some trees losing nearly all of their fruit, others only about 50 percent, as the fickle winds danced around the hillsides. The shade trees, and the town’s agricultural diversity, avoided the crippling losses sustained by those in the coastal towns such as San Blas.

The trip back to Tepic is much less stressful knowing as we do that the town’s main source of income, its coffee crop, was saved from the storm. We wave and exchange smiles with Pablo and his son as we pass them on their way up to El Malinal; the smiles conveying the knowledge that he and the others were not ruined by the storm. Thanks to the trees, we’ll make it through another harvest.