

The Apatanis are one of the 26 tribes of Arunachal Pradesh, inhabiting the plateau between Kamala, Khru and Panior ranges in the eastern Himalayas. The plateau is located 1500 m above sea level. The local communities are involved in rice cultivation.

For centuries, Apatanis have practiced a scientific system of irrigation on their paddy fields, efficiently harvesting water from the river Kele. The water from the river is diverted to the fields by making diversions through a network of channels regulated by wooden sluice gates. By opening and closing of these gates, the water is regulated so that the desired field is irrigated. These days, modern iron sluice gates are fast replacing the wooden ones.

Hollow pieces of bamboo stem are suitably placed in the plot to drain off water to other plots. The conduit of the bamboo pipes in the plots is covered with bamboo meshes to prevent their escape to adjacent fields. The rice field which is in gentle gradient is flooded with the water and the overflow is passed onto the next fields, located at a slightly lower gradient. In this manner, every field receives water by controlling the outlet and inlet. All organic waste including human, pig and poultry refuse generated in the village is drained into the irrigation channels, and ultimately finds its way into the agricultural fields. This not only adds valuable fertiliser to the field but also cleans the environment. Fish are also reared by digging a pit in the middle of the field.

Apatanis do not waste anything. Millets are grown on the raised embankments between rice fields. The husk from the previous year is used as fertiliser. The community does not use any chemical fertilisers in their fields. Their entire agrarian economy is based on a deep understanding and efficient use of local resources. The Apatani system of agriculture provides high yields as compared to both traditional Indian agriculture system, and modern European systems.

