

Local Innovations and Innovators from Uttarakhand:

Agricultural implements made of metal alone: Mr. Baisakhi, a local resident and an Indigenous Innovator, has developed metallic indigenous plough, marker, wider, rack etc. These implements have been tested by District Agricultural Dept. Rudraprayag, Tehari and Ajeevika Project District Management Unit, Chamba, Tehri. The innovator has sold about 5000 units with 50% subsidy. National Innovation Foundation has recently received his entry through the project director, Ajeevika Project.¹⁰



Fuel sticks from pine needles and special stove: Pine needles are shed by trees during autumn season. The needles are very oily in nature and sometimes result in serious fire hazards in the hilly terrains. These are highly combustible and result in frequent forest fires. Pine needles are also very difficult to crush. Looking at this problem another innovator Mr. Nand Kishore developed a machine to grind the needles into powder. He mixed powder with dried dung and a few other supplements and then pressed these into stick forms. For burning these sticks he also developed an improved chulha.

10. Source: Innovations from Uttarakhand, National Innovation Foundation (NIF)



Popularizing science: visualization of sound waves: Mr. Vickey could not continue his studies due to the poor economic condition of his family and was running a bicycle repairing shop. Once, one of his friends, studying in the 12th standard, approached him for developing a good project. Vickey thought a lot and developed a crude model to visualize sound waves. He took a fused tube light, broke one end of the tube, cleaned the white coating and filled

the tube with black powder. One speaker is connected to the open end of the tube and the other speaker is connected with a stereo. As the stereo is switched on sound waves flow through the tube and create impressions over the wooden powder, resulting in change of location and thus creating wave impressions. Refined technologies to see sound waves are available, but are not within the reach of school students. Rural students can imagine only, this kind of simple solutions can help in teaching kids even in the primary standard.¹⁰



Insect killer and thief catcher: Bhupendra was unhappy about the use of pesticides to protect the crops from insects/ pests and their harmful effects on human beings. He developed this insect killer, which can be powered by 12 V DC power or 230 V AC supply whichever is available. It has a CFL tube and aspirator to attract the insects and wiring for electric shock in order to kill these insects.¹⁰

He has also developed a thief catcher kit, which has a sensor and remote alarm. The alarm can be kept within 100 m range from the sensor. When anyone touches the appliance to which the sensor is attached, the alarm would ring thus making the thief run away or be caught.¹⁰



Pedal operated tile making machine: Traditionally tiles are made manually, which is a time consuming, less productive and a boring task. Small potters cannot afford costly machines to increase the productivity. Sukhranjan developed a pedal operated tile making machine, which works on the principle of conversion of mechanical energy from pedaling of wheel into vibration of tile on the top of the wooden foundation. Within 2 minutes of pedaling, air trapped in the mortar is released and the mortar is converted into the tile of desired shape. It can be used for making cement as well as clay tiles.¹⁰

NIF has awarded Sukhranjan during its 3rd National Award Function in 2005.



10. Source: Innovations from Uttarakhand, National Innovation Foundation (NIF)