Apple production in Kullu valley has significantly declined during 1981–2000 (ref. 5). Another significant observation has been the shift in the cropping pattern from apple to pomegranate and vegetable cultivation. Early snow (December to early January) is preferred for meeting the chilling requirement of the crop, so that it has a favourable effect on bud break and soil moisture. Overall decrease of about 2–3% in yield has been reported in Shimla, Kullu, Lahaul and Spiti districts in mid 2000s and the maximum decline of about 4% was witnessed in marginal farms[4]. In addition to direct impact of climate change on apple productivity, it has also aggravated infestation of some diseases and pests resulting in more losses in yield[7,8]. Farmers are keen observers of such changes in the climate and their perceptions also corroborate a similar point of view[9]. In Kinnaur district, 72% of farmers from the low hills believed that change in climate, especially increasing temperature, was responsible for decline in fruit size and quality and 39% of farmers in the high hills considered climate change as a deterrent in maintaining fruit quality[10]. Such observations warrant new approaches for production of apple in the hilly regions to combat climate change.

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Jadav Molai Payeng – the 'Forest Man of India'

Extinction of species is one of the greatest threats to mankind. Habitat fragmentation, resource exploitation and global climate change are the major threats to majority of the species[1]. The successful implementation of grassroot-level conservation strategies has proven to be the best way to remedy our depleting environment[2]. Jadav Payeng has shown us how to save the ecosystem in today's plastic age. It all started in 1979, when he encountered a large number of reptiles that had died after floods washed them onto a treeless sandbar[3]. During 1980, leaving his education and home, Payeng started growing plants and transported red ants from his village, as he believes red ants change the property of soil. Today, he claims to have developed 1360 acres of forest, popularly known as 'Molai Kathoni' (Molai's Woods) after his pet name 'Molai' in Jorhat district, Assam, on the bank of river Brahmaputra. The Assam State Forest Department learnt about Payeng's forest only in 2008 when a herd of wild elephants strayed into it[3]. Today, the Molai forests is home to deer, rabbits, Bengal tigers, rhinoceros, several species of migratory birds, several thousand trees, including *Terminalia arjuna*, *Lagerstroemia speciosa*, *Delonix regia*, *Albizia procera*, *Archidendron bigeminum*, *Bombax ceiba*, various species of bamboo, etc.[4,5]. Payeng was honoured with the title 'Forest Man of India' by the Jawaharlal Nehru University, on 22 April 2012 (ref. 6). He was also honoured by the Indian Institute of Forest Management[7]. Accepting a life of isolation, Payeng still lives in the forest. He shares a small hut with his wife and three children and makes a living selling cow and buffalo milk. The legacy of Payeng teaches us that poverty and illiteracy are not a barrier for a common man to shape the future of our planet. Without acquiring any academic degree, Payeng has forced the scientific community to think in his way for grassroot-level conservation of nature.

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