

Project Update: September 2012

First Rufford Small grant project on White-naped Tit (*Parus nuchalis*) resulted in the need for deep sense of involving local communities in the conservation perspective and assessing their basic dependency on the forest resources. This second Rufford small grant project started with an aim of assessing natural resources used by local communities around the thorn forest habitat through a questionnaire based house hold survey, focus group discussion to develop model fuel-wood and fodder plots, and simultaneously creating awareness about the bird and its significance to the landscape and the management and sustainable use of the natural resources. As part of this it was proposed to develop model plots in six villages along the boundary of the White-naped Tit habitat, with an extent of 10 ha in each village, the main objective behind is to decrease or reduce the natural resource extraction from the bird's habitat.

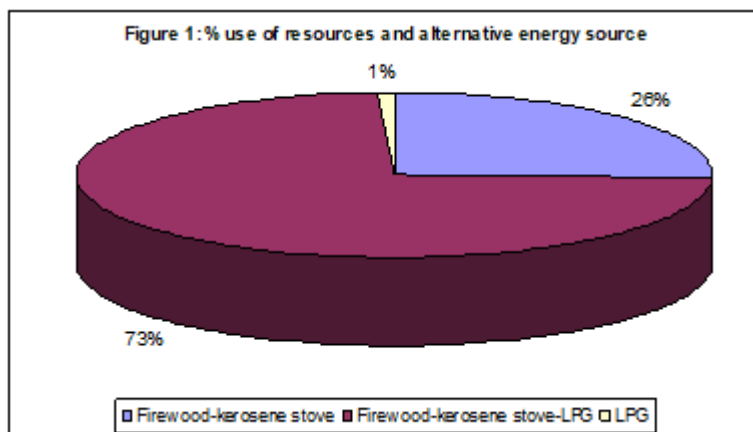
The project started with the following work objectives that were initiated and carried out simultaneously:

- ❖ Focus group discussion to check the possibilities to develop model fuel-wood and fodder plots.
- ❖ House hold survey to assess the natural resources requirement
- ❖ Create awareness among local communities and school kids.
- ❖ Check the availability and status of the Village land to develop the model plots
- ❖ Developing model plots (includes land preparation, arrangement / procurement of preferred fodder grass seeds, fodder and fuel wood plant saplings, enrich soil with farmyard manure and arranging human resource for field implementation / plantation).

House Hold surveys: Earlier project revealed that White-naped Tit population was declining because of intra-specific competition (loss of habitat, nest site competition) due to various natural and anthropogenic pressure. These anthropogenic pressures were in terms of, acquiring the fuel-wood and fodder resources from the forest by the local communities surrounding the thorn forest habitat and the adjoining dry deciduous forest. Hence the household survey aimed at assessing the amount of fuel-wood required per house hold, its availability and distance moved /covered to acquire this natural resource and how the local community sees a forest and use the natural resource to fulfil their basic requirement of fuel-wood and fodder. Initial phase of this household survey was carried out in two villages Rajpura (human population -1595) and Mandigarh (human population -1531) with 230

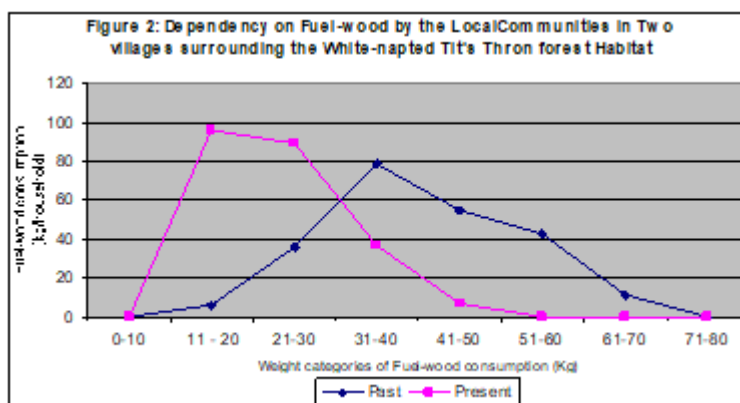


households that were found based on the previous study to be highly dependent on the forest for meeting their resource needs. This survey revealed that 73% of the household were totally dependent on firewood and rarely on kerosene stove and only 1% used LPG as a source of energy to cook their food, while the remaining 26% found to use other alternatives which included firewood largely as source of energy (**Figure 1**).



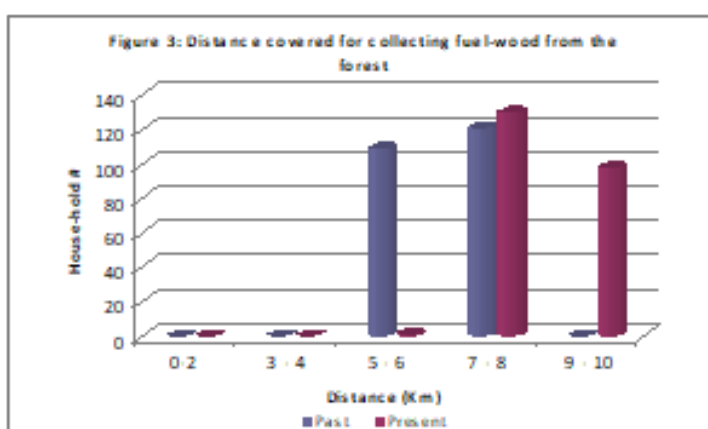
On an average minimum and maximum amount of fuel-wood used by a household were 20 and 70 kg/household respectively. The maximum amount of fuel-wood collected 20 years back was maximum 70 kg but presently this has decreased to maximum of only 50kg, the decrease of 20 kg is due to lack of fuel-wood resources in their neighbourhood (Figure 2). The fuel-wood consumption from past to

present has changed. Earlier when there were no other alternative available, people used a maximum of 40-50 kg/household, but today when other option such as LPG, Gobar-gas (Biogas plant using cow-dung and other biodredable material) and solar energy are available, people still tend to use firewood for their basic needs just because it is a freely available natural resource.



Distances covered to acquire this natural resource was within a range of 5km from the area of residence, but this distance has doubled presently to minimum 10km, which clearly depicts that the adjoining forest is shrinking day by day, mainly due to destruction through extraction to fulfil their basic fuel-wood and fodder needs (Figure 3). This has subsequently exerted

tremendous pressure on the thorn forest habitat of White-naped Tit, an endemic and vulnerable species found in this region. Keeping all this information in mind, question such as “what were the fuel-wood and fodder species present 20 years back in these areas” was also asked, so that those preferred species can be planted in model fuel-wood and fodder plots.



Questionnaire also contained questions on fodder species, but as mostly the local communities were traditionally dependent on forest to meet their fodder demand, it takes time to make them aware on this issue of developing their own fodder and fuel wood plots so that pressure from the forest can be minimized. However the survey was to be done in six villages, as the development of model plots involves plantations and grassland development, which is

fully dependent on the rains during the monsoon, which was to start by end of June, the house hold survey was stooped and efforts were directed towards identifying plots for the model resource development.

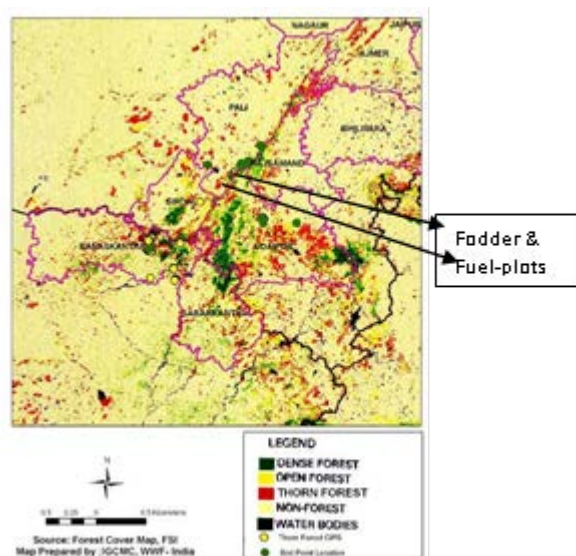
Focus Group Discussions: Focus group discussion meant to discuss and create awareness on the criticality of the depleting natural resources, declining population of White-naped Tit, involvement of different stakeholders and school kids to develop ways and means of developing community participated conservation plans. Idea of development of model fuel-wood and fodder plots was also initiated in focus group discussions. It was a time consuming exercise and needed lots of confidence building among village communities because the communities that surrounds the thorn forest habitat of vulnerable white-naped Tit, are traditionally dependent on this forest and it takes time to change people's perception when they are using some areas for ages.



Environmental Awareness among stake-holders: This awareness program was started at different level including awareness among women group, Village Sarpanch (Village head elected constitutionally), village committees and school kids. Forest department was aware of all this activity and their inputs will be incorporated in next phase of this project. In this program, findings of previous projects, small video clippings of nesting of White-naped Tit and significance of this species of the thorn forest, were also discussed. Findings of initial household surveys in the two villages were also shared with the stake-holders and used to convince them for developing their own resources. This program will run until the end of the project.



Development of Model Fodder Plot: The main aim to develop such model fodder and fuel wood plot was to try and divert or reduce some amount of pressure on the forest exerted by the local communities and make them aware that resource can be developed in their wasteland and utilized. Development of model fodder plots were done in three villages (Rajpura - total livestock population (Cattle, Buffalo, Sheep & Goat) of 1742, Mandigarh - total livestock population 1556 & Sadri - total livestock population of 2664) comprising of 40 ha of land, with 10 ha each in Rajpura and Mandigarh and 20 ha in Sadri, as this village had large extent of wasteland / Gauchar (the grassland / grazing land of the village) land with comparatively more livestock population 2664 and were also highly dependent on the forested area for fodder & fuel-wood. The fuel-wood development was done in



the village adjoining the thorn forest habitat and species used for plantation were the ones used by local communities and that existed in this climatic condition. This activity required more involvement of the local community, which included discussion with village heads for identification and allotment of land, land preparation, acquiring seeds and saplings, manure (farmyard manure - livestock dung & pellets), which are traditionally used in agriculture (artificial fertilizers - chemical were not used in this area). All seeds and manure used were indigenous in nature, however the viability was a cause of concern before sowing them in the field, the delay of monsoon was also a cause of concern. The monsoon that usually starts in

the end of June or beginning of July got delayed and started in mid August. Plantation was done in the school also to create awareness among the children and get them involved in plantation of trees, in addition to planting in the model plots.

The entire process of model plot development involved the following steps:

First step: - Selection of Site: In total three villages were selected for this model plot development in which site selection was done. Sadri, which had largest grazing land and Rajpura and Mandigarh which had the second largest gauchar land (village grazing land) all located adjoining to the thorn forest habitat. More than 40 ha of land were selected with the consciences / permission of village heads and committees (committee responsible for the welfare of village). Rajpura and Mandigarh have different types of communities that include Raika community (Pastoral community), Luhar, Garasia and Meena tribes, in which Raika community are traditional livestock rearers and are using these forest areas for ages for their livelihood, as it is part of their tradition and custom. Rajpura and Mandigarh villages had mixed tribe and communities with more dependent on fuel wood, so these villages were selected for fuel-wood plot development because primary household survey showed that more than 73% of the village house hold were dependent on fuel-wood collected from the forested area (**please refer Figure 1**) for cooking, while the third village, Sadri, of study area was selected for fodder-plot development because in this village in addition to the Raika community, there were other communities also that were dependent on these thorn forest for most of their fodder resource.



Second Step: - Removal of Invasive species: These gauchar lands were encroached by invasive/exotic species like *Prosopis juliflora* and *Cassia auriculata* and non-palatable weeds like *Cassia tora* and *Parthenium hysterophorus*. All these species have taken over the grazing lands and decreased the growth of preferable fodder species further, the villagers were also against these invasive and weed species, as according to them these species ruins the soil quality, which has now been scientifically proved by the Govt. authorities. Twenty hectares of land, which was identified for model plot development was cleared manually and at places using machinery and prepared further for fuel-wood and fodder plot development. One (Mandigarh) of the two remaining villages were not willing to remove the invasive species, so awareness program is underway to generate further awareness to make them understand the ecological damage these species cause and also the significance/ necessity of the conservation of the forest around and the environment.



Third Step: - Acquiring the fodder seeds and arrangement of saplings: After household survey in two villages i.e. Rajpura and Mandigarh of Pali district and few focus group discussions in Sadri the third village, it was clear what species were preferred and which species were the native to this region and were present earlier and vanished due to excess extraction / use. Fodder (grass seeds) and fuel-wood species that were acquired from different places are mentioned below.

- i. **Fodder species used:** *Cenchrus setigerus*, *C. ciliaris*, *Dichanthium annulatum* and *Heteropogon contortus*.
- ii. **Fuel-wood Species planted:** *Acacia nilotica*, *Acaica leucophloea*, *Capparis decidua*, *Capparis sepiaria*, *Prosopis cineraria*, *Azadirachata indica*, *Zizyphus mauritiana* and *Z. nummularia*.



Fourth Step: Land Preparation and Seed Sowing: Removal of invasive species and application of indigenous manure on the model plots were done. Seed sowing was done using traditional and mechanized way. All work was done in 40 ha of land, while other areas are under survey to develop another 30 ha of model plots.



Fifth Step: Monitoring of the model plots: The land preparation, seed sowing and plantation work was followed by the most important task, monitoring of these plots. Mostly village community were involved in the monitoring work, as the villagers were motivated to protect their plots, which was also part of the focus group discussion. However due to their other work that provided their livelihood that made them only partly involved in protecting these plots, one villager / field assistant was also kept to look after the plots and also assisted me in carrying out the house-hold surveys. Further, every fortnight monitoring is being done by the project team as well.

All these work, the household survey, development of model plots, awareness program and focus group discussion were done simultaneously. The major cause of concern was the delay in monsoon in Indian sub-continent this year. Usually the monsoon that starts from end of June or first week of July was late by one and half month, this year, and the entire country received very irregular rains leaving the western part of country (including study area in Rajasthan), that declared drought condition initially. Now as rains got delayed and monsoon came late, and is still raining, now the cause of concern moved from drought condition to flood condition in some parts of Rajasthan. This information of late monsoon and irregular weather condition was put forward in focus group discussions to create awareness among local communities, mainly linking it to the forest cover in the area and their village environs.

One thing which was clear is women; old people and kids were more receptive towards involvement in conservation process while men and youth of this area seem to be materialistic and least interested in community based conservation perspectives and need more motivation towards this direction.

Due to poor rains this year we were able to develop only 40 ha, while the remaining plots would be developed in coming year. Environmental education and awareness program along with house hold survey to map the resource availability and use is in progress for other villages.