



## **Shared Learning Dialogue on Climate Change Perception**

**Site: Jhaukhel**

Date: 1<sup>st</sup> June, 2012

A half day program focused on capturing the people perception on the changing climatic parameters was conducted at Jhaukhel on 1<sup>st</sup> June, 2012. The program started with a brief reintroduction of the research project by the research co-ordinator Mr. Rajesh Sada. Following this was sharing of the ongoing activities and findings of the research particularly regarding Jhaukhel VDC.

A total of 31 people (9 males and 22 females) participated in the program. The program was conducted in two sessions. In the first session, the participants were divided into two groups: Group1 with male participants and Group2 with female participants and thus initiated group discussion on perceived climatic changes and livelihood impacts. The aim of the group division was to collect the gender disaggregated information on the changing climatic parameters as perceived by local people. The female group was re-divided into two sub-groups to make the participation from individual more effective. Each group was facilitated by the researchers from the nec-peri-urban team.



The groups under the assistance of allocated facilitators discussed the perceived changes in climatic parameters primarily on the changing rainfall, temperature and wind. Additionally, the impacts on the agriculture, natural resources and over all livelihood were captured through the semi-structured check list ranking the perceived changes from -2 to +2 depending upon the perceived negative and positive impacts of the change.

Post lunch, was the second session where the findings from each group was re-discussed to aggregate the perception of the whole group and compared to the findings from hydro-meteorological data analysis. The participants were excited to share the information and suggested to conduct community based program on a regular basis. As per the discussion the perceived increase in temperature in both summer and winter was common among both male and female participants. Regarding the perceived change in the total amount of rainfall female participants did not perceive change while male participants perceived an increase in total amount of rainfall. Both the groups accepted that paddy cultivation has been relatively easier compared to 8-10 years earlier however some female participants stressed the changing pattern

of rainfall sharing the added stress to maintain the germinated sapling till transplanting has been major problem.

Contrasting to the Dadhikot in the same district, people in Jhaukhel perceived change in climate particularly rainfall change has been more favorable for the last 8-10 years which has in combination with increased input in terms of fertilizers has contributed to an increase in the crop yield.



The rainfall data analysis though there shows no clear pattern in the rainfall data, the linear trend analysis conducted for monthly rainfall sum, showed increasing trend to be somewhat stronger than the decreasing trend and by averaging the trend over all months and all stations (except Naikap), an increasing trend of 0.06/yr was found implying precipitation on average had increased. Rainfall decreased mainly in the months October to March supporting the perceived decline in winter rainfall. The study also showed an increase in rainfall from April to September except for June and in May all the stations (except Naikap) showed an increase in rainfall. June is the onset of monsoon and as per the rainfall data analysis it suggests, after the pre-monsoon rain in May, the monsoon has delayed its onset in June and start increasing in July till September. Changunarayan, the hydro-meteorological station closest to Jhaukhel showed decrease for April and a strong increase in precipitation in June.

*Female group shared an interesting local anecdote regarding Jhaukhel as poor rainfall area. As per her in the earlier time, parents were hesitant in getting their daughters married to Jhaukhel due to its poor water conditions. There was threat of facing hardship for domestic water management and food insecurity due to poor rainfall. With the new technological invention such as electric water pumps, access to ground water has drastically improved the water availability to Jhaukhel residents. Further majorities agreed the rainfall change over last 8 to 10 years has been in their favor. Though the production has increased compared to that 10 years earlier but with the increasing incidences of pest occurrence and emergence of new pests, need of chemical fertilizers has increased the cost of production thereby resulting reduction in the net benefit to the farming communities. Female participants due to their involvement in weeding processes were more aware of pest invasion. The participants perceived an increase in the intensity of wind and have gradually shifted towards dwarf variety of paddy (Choto Mansuli) and maize (Chinese makai) to escape the yield loss due to wind.*

Traditionally due to rain-fed agriculture, paddy transplantation in Jhaukhel is generally done during Ashad end i.e during July. As indicated by climatic data the increasing rainfall in the

month June for Changu narayan station supports the perception of farmers at Jhaukhel considering the rainfall being favorable for paddy cultivation at Jhaukhel in the recent years. Even during the pilot study, a positive change in rainfall trend was shared by the local communities indicating an early start of monsoon in the area, a shift from Shrawan to Ashad.(July to June). The findings from rainfall data analysis strongly support the perceptions. The findings from the hydro-meteorological data and their probable co-relation were shared to participants during the SLD.

As discussed earlier, Jhaukhel VDC has no arrangement of irrigation system and arranging water mainly for irrigation water has been difficult. Climate change has not yet been perceived as a stressor to the agricultural practice in Jhaukhel VDC rather in the recent years the rainfall pattern has been beneficial to them with observable yield increase of monsoon crops. This also has been supplemented through drought resistant paddy variety gradually replacing high water demanding Taichin variety with the more drought resistant Mansuli and wind resistant shorter varieties of Mansuli namely Khumal char, Khumal aath have been more preferred and further through increased fertilizer input. Though the capacity building activities from the agriculture promotion centers have facilitated farmers in accessing to the new varieties however the acceptance from the farming communities can be considered an autonomous adaptation towards the changing climate. The changing pattern in cropping more directly towards input based has increased the cost of production thereby reducing the net gain for the farming communities.



Ground water is the major water resource of Jhaukhel. Most streams in Jhaukhel are seasonal and it has no major spring source. Participants explained the duration of stream flows in the seasonal streams has decreased compared to a decade earlier. Similarly the yield at the stone spouts and springs has reduced. Despite this, with the water supply from community managed drinking water schemes, water management have been easier compared to past. Women particularly have been benefited with the reduced water related hardship. Moreover in ward no.2 and 3 of the VDC, local women organization have been successful to tap spring originating at the private land and started the distribution of water through public stand posts. Additionally ground water extraction has increased at the household level for domestic or commercial purposes.

Ending the session was the sharing of findings from the climatic data analysis from the nec-research team which as per the perceived change, showed an increasing temperature trend however no clear pattern in rainfall could be concluded.

### List of Participants

Date: June 1, 2012

Day: Friday

Venue: Jhaukhel

S.N	Name of participants	Organization	Ward no.	Contact No
1	Kamal Bahadur Aaganja	Soaltee Hotel	8	016611884
2	Prem bahadur Shrestha	Nagarik Samaj Samyojak	5	015090506
3	Krishna Janma Duwal	Pragatisil Krishak Samuha	8	9841927475
4	Chandra Bahadur Sulu	Pragatisil Krishak Samuha	9	016616219
5	Aatmaram Dhimal	Farmer	2	9841780451
6	Safal Gelal	Farmer	3	9841826604
7	Narayan Bhakta Duwal	Farmer	6	9051047715
8	Junu Sulu		9	9803409430
9	Sabitri Chuya	Khatri Tole	7	
10	Sangita Thapa	Social worker	6	9849326942
11	Indu Thapa	District Environment	8	9849426442
12	Saraswati Makaju	Social service	6	9841580163
13	Junu Thapa	District Environment	8	6613559
14	Sarada Thapa	Farmer	6	6614904
15	Radhika Thapa	Farmer	7	
16	Kamal Sakha	Farmer	5	9843301131

17	Kabita Dahal	Farmer	2	9841693945
18	Uma Neupane		4	9841049368
19	Sarita Neupane		4	
20	Aahilya Pokhrel		1	9808931491
21	Parwati Dahal	Social Worker	2	
22	Bhawani Kusatha		5	
23	Bhagwati Neupane	Social Worker	3	
24	Minda Aaganja	Dip Jyoti SecondarySchool	8	9841401175
25	RamaThapa	Dip Jyoti SecondarySchool	7	9841987239
26	Rukhu Malla	Radha Krishna Krisak Samuha	6	
27	Rausila Neupane	Social worker	4	
28	Mina Dahal	Social worker	2	
29	Laxmi Dahal	Farmer	3	9841176698
30	Gokul Dahal	Gramin Apangata Sewa Kendra, Jhaukhel	1	9841358514
31	Rajesh Sujukhu	VDC office	2	9841514996S