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CV

I have been awarded a fellowship through the SEED project to pursue PhD studies in Climate change & Food Security, at the Karakorum International University Gilgit Baltistan, in 2011. Formarly I was trained at the Agricultural University Peshawar, M.Sc (Hons) Food Science and Technology (2005-2007), and I did my bachelor from AJK University Muzzafar Abad (2000-2004). Since 2008, I'm a lecturer at the Food & Agriculture Technology Department of the KIU. Mainly responsible to take content classes of B.S(Hon) level and to take quizzes,assignments ,mid term,final term exams, and also assessment and evaluation of stuednts. It is also our responsibility to assist students in Career Counseling on every Thursday of the week.Conduction of research projects for selected students for final semester .To manage Co-curricular activities at departmental wise and in campus based competitions at KIU.

Research publication:

SM.sabir. Maqsood. H., I.Hayyat., Khalique.A.200 "elemental and nutritional analysis of sea buckthorn berries of Pakistan origin" has been published in Journal of Medicinal Food Korea, Korean Society of Food Science and Nutrition.

Wahab, S., M. Hussain. Ayub, A. Muhammad, M. Khattak, M. Faiq, Y. Durrani, S. Muneer. 2011. "Analysis of minerals and vitamins in sea buckthorn (hippophae rhamnoids) pulp collected from Ghizer and Skardu districts of northern areas". Accepted for publication in Pak. J. Bot. (Impact factor 0.947).

Supervision of final year students research projects:

- Organoleptic and biochemical evaluation of peach fruit pulp.
- Effect of preservatives on shelf life of apricot juice in ambient temperature
- Effect of different preservatives on over all acceptability of apple pulp.
- Varietal comparison of cherry fruits grown in different locations on the basis of their physicochemical properties.
- Nutritional & sensory evaluation of mulberry fruits collected from different localities of Gilgit district

Impact of climate change on Agriculture and Food security in CKNP Area Gilgit Baltista

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It is well-known that climate change has a potential impact on agriculture. There has been much debate on the effects of climate factors on productivity of the agricultural products. Fluctuations on climatic variables such as temperature, precipitation, humidity etc. make the farmers conduct their activities under the risky environment, resulting in variation in farmer's income. Central Karakoram National Park (CKNP) is situated in the Gilgit-Baltistan region of Pakistan and is the county's largest Protected Area (PA), covering over 10,000km² and encompassing the world's largest glacier outside the Polar Regions. It is an ecologically fragile region, characterized by extremes of altitudes that range from 2000m to over 8000m, including K2, the second highest peak in the world. As with other high altitudinal niche ecosystems, the region is significantly impacted by global warming and climate change, which in turn affects the natural environment and subsequently the lives of the locals. The mainstay of the local communities is mixed mountain agriculture, heavily supplemented by cash income from commercial and public services. The area under cultivation is only 2% in Gilgit Baltistan, the major crops grown in the area wheat, Barley and maize, recently the trend of

agriculture is shifted towards vegetable crops especially potatoes and tomatoes are commonly grown in the area as a cash crop. Irrigation system of the area is mainly consists of water channels, these channels connected with stream. Surface water supplies are available from seasonal river flow, springs, glacial streams and seasonal snow melt. The Climate change and its impact are becoming increasingly evident in Pakistan, especially in the mountainous regions. The mountain area agriculture is relatively unstable and low productive, as in recent few years it is noticed by the farmers that the flow of water in the area decrease and not flow timely during irrigation. The area is also subject to sudden mudslides and rock falls which frequently block roads and irrigation Channels. Due to the climatic variability, one of the most affected are is water resources, according to a report published by IUCN Pakistan the mean temperature of the area is increased which increases the risk of drought and flood. The changing weather pattern and consequent impact has also contributed to the change in cropping pattern (date of sowing, date of harvesting) crop diseases, nutritional value and yield of crops.

Beside the climatic factors the unavailability of improved and high yielding cultivars resist to harsh climatic condition, lack of awareness of modern crop management practices the production level is low. presently the production level of tomato is low therefore most of the demand is fulfilled by transporting the produce from other parts of country. Gilgit Baltistan furthermore is situated in extreme north of the country and region is connected to the rest of the country by only ground rout KKH, which remains blocked frequently due to the land sliding, hence it is essential to get self sufficiency at local level to overcome the problematic situation. Although there is limited research focused on climate change impact on agriculture has been done in CKNP region. It is feel that the CKNP area is significantly impacted by global warming and climate change. Hence, there is need to adopt different approaches to study the response of crop species to rising temperature, the field trial under the natural environment are more pragmatic. The integrated adoptive strategies i.e. field trials to evaluate performance of tomato cultivars in respect to growth, yield and nutritional value under the prevailing climatic conditions, the present and past climatic data from Met stations and view of local community about climate change will helps to identify impact of climate change on agriculture productivity.

The present study will be conducted in Bagrote valley. Bagrote valley forms part of the CKNP buffer zone and is the model region for CKNP, owing to its socio-ecological significance. Trials will be conducted on open field to evaluate the performance of locally produced and improved varieties of tomato.

Keywords:
Climate change, Agriculture, Food Security, CKNP, Tomato.