While my experiences as an agronomist have been diverse, research has unquestionably been the most important and rewarding component of my agriculture education. Committing myself to the world of scientific research has instilled an investigative mindset and a passion for the scientific process and an appreciation for the results of agricultural research. Research has proven to be a fantastic supplement to my undergraduate and postgraduate coursework, allowing me to strengthen my conceptual understanding of the material taught in my science classes and leading to an improvement in my academic performance as I became more involved in research outside of the classroom. Participating in research and the consequent interactions with my peers and advisors continued to provide me with a toolbox of hard and soft skills that has paid dividends in my coursework and professional relationships.

I first began my research as a freshman in the research station of Dehdadi in the University of Balkh, Afghanistan investigating the difference of a newly bred variety of wheat from the existing ones through DUS test. DUS testing is a way of determining whether a newly bred variety differs from existing varieties within the same species (the Distinctness part), whether the characteristics used to establish Distinctness are expressed uniformly (the Uniformity part) and that these characteristics do not change over subsequent generations (the Stability part). (research name, procedure and results missing)This period allowed me to master essential research techniques. Having time to learn these techniques while being closely mentored in the research lab provided a valuable opportunity to increase my efficiency in the lab and also gain confidence in my work at the lab bench. Taking additional time to gain a detailed understanding of the scientific background, purpose, and significance of my new lab skills also helped immensely in my related scientific coursework, as I found myself with a stronger understanding of the topics presented in class due to my experience practicing these related techniques in lab.

After my graduation, although I pursued my career in agriculture but I am a consistent learner, I am passionate about new things, new trend, and new things in my profession. These all are the pushing factors that motivated me towards more research. Moreover, my desire to contribute to food security and malnutrition intrigued my interest towards exploring effective and efficient methods of food production so they may attain maximum yield. However, unfortunately I could not satisfy my research passion in my country as there are no such research opportunities of exploration. Therefore, due to my strong ties from Pakistan and my connection from peers at University of Agriculture Peshawar, I approached to professor xyz, and explained to him my research passion and interests, he offered me a volunteer position as an ungraduated researcher in his laboratory and research farm, and allowed me to perform and contribute to the ongoing research on hybrid mode so that I can continue with my employment in Afghanistan. Working for both my research while working on a full time employment helped me manage my time, improved my management as well as my communication skills, as I was required to constantly communicate with members of both labs and prioritize tasks based on their relative importance.

During the period 2014-2015, I was given a chance to conduct an experiment named **"Effect of phosphorous, rhizobium inoculation and residue types on chickpea productivity"** with the objective to evaluate the effect of phosphorous, rhizobium inoculation and residue types on chickpea productivity which was conducted during Rabi 2014-15 at Agronomy Research Farm of The University of Agriculture Peshawar. Randomized complete block design (RCBD) was used for the experiment with four replications. Inoculated and un-inoculated seeds were sown with three phosphorus (P) levels (30, 60, and 90 kg ha-1) and three residue types (cereal, legume and oilseed). A control treatment was also included. Plots supplied with 90 kg P ha-1 induced early flowering and maturity with higher nodules plant-1, plant height, and number of pods plant-1 and biological yield which was statistically similar with application of 60 kg P ha-1. Significantly higher number of grains pod-1, thousand grains weight and grain yield was recorded in plots treated with phosphorous at @ 60 kg ha-1. Residue types showed non-significant effect on all studied parameters. Seeds treated with rhizobium produced maximum nodules plant-1, grains pod-1, pods plant-1, 1000-grains weight, biological yield and grain yield. The interaction between phosphorus and rhizobium inoculation exposed that seeds treated with rhizobium resulted in maximum biological and grain yield when fertilized with 60 kg P ha-1. It can be concluded that chickpea when inoculated with rhizobium and fertilized with 60 kg ha-1 phosphorus resulted in maximum yield and yield attributes of chickpea.

I performed the similar type of experiment named **"Effect of Poultry Manure and Phosphorous on Phenology, Yield and Yield Components of Wheat"** at Agronomy research farm of the University of Agriculture, Peshawar during winter 2015 with an objective to estimate the effect of poultry manure (PM) and P on wheat performance. Experiment was laid out in randomized complete block design having four replications. Three levels of PM (1, 1.5, 2 tons ha-1) and five levels of P (0, 50, 75, 100 and 125 kg ha-1) were taken as treatments. Poultry manure and P significantly affected phenology, yield and yield components of wheat. More tillers m-2 with maximum days to anthesis, maturity and maximum spike length, grains spike-1, thousand grains weight, biological yield and grain yield were recorded in plots treated with PM @ of 2 tons ha-1. With increase in P levels days to anthesis and maturity decreased. Maximum tillers m-2 , spike length, grains spike-1 , thousand grain weight and grain yield was recorded for P applied @ of 125 kg ha-1 which was statistically similar to P applied @ of 100 kg ha-1 . Maximum biological yield was recorded with the application of 125 kg P ha-1. Based on the experimental results it can be concluded that application of PM @ of2 tons ha-1 in combination with P @ of 100 kg ha-1 resulted in higher productivity of wheat.

The proposals enabled me to transition from a closely mentored member of the lab to an independent researcher with my own project. Successful completion of this project provides a high-throughput method of achieving maximum yield of chickpea and wheat and holding the potential to lead to promising maximum production of the products. My work on this project was not only presented to my peers, advisors, and other experts in the field but was published in the International Journal of Current Microbiology and Applied Sciences. Having experience presenting my work to a scientific audience greatly improved my ability to communicate my ideas in research and exchange innovative thoughts and concepts with my peers.

Because of my interest in production and my background in agronomics I also sought research in agronomics practices that may increase yield output. Selection of suitable agronomic practices like plant density and nitrogen management have a significant effect on overall crop growth and final output in terms of yield. An experiment **“Plant spacing and nitrogen affects growth and yield of cotton”** with three plant spacing (21 cm, 27 cm, and 33 cm) and four nitrogen levels (0 control, 55, 110, and 165 kg ha-1) were conducted in a randomized complete block design with split plot arrangement at Agronomy Research Farm of the University of Agriculture Peshawar during summer 2015. Results showed a significant effect ($P \leq 0.05$) of both plant spacing and nitrogen rates on number of monopodial and sympodial branches per plant, plant height, number of opened bolls per plant, main stem nodes per plant, and seed cotton yield per hectare. Taller plants were recorded with 21 cm plant spacing. Higher values for the rest of the studied traits were recorded with 33 cm plant spacing and in case of nitrogen maximum values were recorded with nitrogen applied at the rate of 165 kg ha-1. For achieving higher cotton it is recommended to sow cotton crop with plant to plant distance of 33 cm along with application of N at the rate of 165 kg ha-1.

My second project in the above mentioned context in the same research farm was based on the measures to improve phosphorous limitation in Pakistan as it one of the major constraints in Pakistan’s food production. An experiment named **“Response of maize to integrated use of organic and inorganic sources of phosphorous with biochar”** comprised of two biochar levels (0 and 10 tons ha-1) and three P sources was designed with an objective to study the integration of organic and inorganic sources of P with biochar for improving maize yield. The P sources included two organic sources i.e. Farmyard manure (FYM) and poultry manure (PM) and an inorganic source i.e. diammonium phosphate (DAP). Experiment was conducted at Agronomy Research Farm of the University of Agriculture, Peshawar during summer 2015 by using randomized complete block design with three replications. FYM, PM and DAP were applied in different ratios of organic and inorganic fertilizers i.e. 100, 75 and 50% of P was obtained from the organic sources and the rest was compensated from the inorganic source to provide a total of 100 kg P ha-1 . A control treatment was also included in the experiment for comparison. Statistical analysis of the data showed that more number of days to 75% tasseling and silking with maximum plant height, grains ear-1, grain yield, biological yield, and harvest index were recorded in plots treated with 10 tons ha-1 biochar along with application of 50% organic fertilizer of P and 50% inorganic fertilizer regardless of source of organic fertilizer. It can be concluded that application of P @ 100 kg ha-1 in such a combination that 50% P is applied from organic source (FYM/PM) and 50% P from inorganic source along with biochar (10 tons ha improved yield of maize. The results of both the projects were presented for publication in the journal of Pharmacognosy and Phytochemistry in the year 2018. (learning outcomes)

Although I found the research in the research lab more stimulating, I sought research on field as well because field experiments offer researchers a way to test theories and answer questions with higher external validity because they simulate real-world occurrences. In 2016, I conducted a field experiment named **"Impact of integrated potassium management on plant growth, dry matter partitioning and yield of different maize (Zea mays L.) hybrids"**, to investigate the impact of hybrids (DK-Garanon, Pioneer 3025, WS-666 and Pioneer-3164) and potassium ratios (100% organic, 80% organic + 20% inorganic, 60% organic + 40% inorganic, 40% organic + 60% inorganic, 20% organic + 80% inorganic, 100% inorganic and control treatment) on plant growth, dry matter partitioning and yield of maize crop during summer 2016. Poultry manure (PM) was used as organic source while sulphate of potash (SOP) as inorganic source of K (applied @ of 80 kg ha-1). The results revealed that highest single leaf area (402.7 cm2), leaf area index (4), total dry matter plant-1 (338.6g), stem weight plant-1 (76.8g), leaves weight plant-1 (45.1g), ears weight plant-1 (187.3g), biological yield (14901 kg ha-1) and grain yield (4898 kg ha-1) were recorded for DK-Garanon hybrid. Regarding potassium ratios highest single leaf area (422.5 cm2), leaf area index (4.14) , total dry matter plant-1 (368.3g), stem weight plant-1 (83.6g), leaves weight plant-1 (52.3g), ears weight plant-1 (203.8g), biological yield (15213 kg ha-1) and grain yield (5362 kg ha-1) were recorded in plots which received potassium ratio (40% organic + 60% inorganic) followed by plots which received K ratio (60% organic + 40% inorganic) while lowest values for the studied traits were recorded in control plot. It can be concluded from the experiment that application of K @ of 80 kg ha-1 from both organic and inorganic sources at the ratio of (40% organic + 60% inorganic) to hybrid DK-Garanon resulted in higher yield. The field work Demonstrated in me engagement, assessment, intervention, and evaluation skills.

In the year 2016, I was completely physically enrolled in the masters by thesis in Agronomy at University of Peshawar, Pakistan. As I have continued my research as a postgraduate, I have been fortunate to gain more independence in my research work. Fertilizer application and maintaining optimum plants in a unit area describes the yield potential of a crop. An experiment entitled **"Increasing maize production through nitrogen and planting density"** was performed at Agronomy Research Farm, The University of Agriculture, Peshawar in kharif, 2017. The research was laid out in randomized complete block (RCB) design with split plot arrangements having four replications. Variety "Azam" was sown on 7 June 2017 in rows 70 cm apart. The soil of the area was calcareous and alkaline in nature having a pH of 8.2. A plot size of 2 m x 4.2 m was maintained with 6 rows. Nitrogen levels were assigned to main plots and plant population to sub plots. Main plot factor nitrogen levels were 0, 75, 100 and 125 kg ha^{-1} and subplot factor levels were plant population of 63000, 68000, 73000 and 78000 plants were maintained ha^{-1} respectively. The crop was harvested on 25 September, 2017 at harvest maturity. Regarding nitrogen application higher thinned plants biomass (1.72 kg/8.4 m^2),ears $plant^{-1}$ (1.71), ear length (20.26 cm), number of grain rows ear^{-1} (17.17), number of grains ear^{-1} (449.83), thousand grains weight (227.42 g), biological yield (10172 kg ha^{-1}), grain yield (3402 kg ha^{-1}) and harvest index (33.55 %) were recorded in plots treated with nitrogen at the rate of 125 kg ha^{-1}. While in case of plant population higher thinned plants biomass (1.58 kg/8.4 m^2), productive plants (95.46%), ears $plant^{-1}$ (1.84), ear diameter (13.56 cm), ear length (20.13 cm), number of grains ear^{-1} (440.08), thousand grains weight (221.18 g), grain yield (2944 kg ha^{-1}) and harvest index (35.22 %) were recorded by maintaining plant population of 63000 plants ha^{-1}. More plants after thinning (66) were recorded at plant population of 78000 plants ha^{-1}. The interactive effect of nitrogen levels and plant population was found significant for grains ear^{-1}, thousand grains weight and grain yield. Increasing nitrogen rates with reducing plant population enhanced grains ear^{-1}, thousand grain weight and grain yield. Nitrogen application at the rate of 125 kg ha^{-1} and maintaining 63000 plants ha^{-1} produced more yield and yield contributing parameters and is therefore best for producing optimum grain yield in the Agro-climatic conditions of Peshawar valley.

With more experience, I was given the opportunity to collaboratively participate in the experimental design process. In both the Farms and research labs, I have had the opportunity to work with my mentors to draft and submit scientific research proposals for competitive journals, which has provided valuable practice expressing my ideas to peers and faculty members in order to gain support for my work. As a result of writing these papers, I have received appreciated experience in working collaboratively with my mentors in the experimental design.

After contributing enough to the maximum yielding techniques of food production I also investigated to the problems that agriculture face. Climate change is evolving as one of the leading environmental problems facing modern world. A serious threat is to the crop sector which is vulnerable to change in temperature and rainfall. Extremes in climate variations are increasing and threaten the security of our livelihoods and assets. Long term changes result in both creating opportunities and threats to crops and farming systems and timing of sowing and genotype selection affecting farm production. Therefore it is important to learn to live with these changes, make use of the opportunities and deal with the threats to prevent losses. The study **“Genotype and Environment Interaction Determines the Yield Potential of a Crop under Changing Climate”** documented different researcher’s results regarding sowing dates and genotype selection. The results indicated that both sowing dates and genotype has a key role in final crop productivity. The study suggested that sowing dates and genotype selection are to be adjusted according to changing climate to minimize losses. (learning outcomes)

Exploring and working on finding ways of effective production was one of my goal of wider objective. I have always desired to contribute to restoration i.e to bring my country back on the same path as it was before the conflicts by contributing to education, economy, poverty, and hunger. Food is often scarce in countries afflicted by fragility, conflict and violence. But solutions require more than putting food on the table today. To truly help those caught in often terrifying situations, it's important to look at how they will be able to eat and provide food for their families tomorrow and beyond – and that requires focusing on agriculture. The methods of efficient production, most of them as presented by my research, will contribute directly to alleviate hunger.

However, there's a relation between hunger and poverty in conflict affected states. Their per capita income is usually persistently low, so people cannot afford to buy high quality foods and a diversified diet. And those who produce food cannot afford to buy the most critical inputs, such as seeds, fertilizers and good animal feed. Because of that, extreme poverty is increasing. This is almost like a vicious cycle. There are also disruptions to food systems. For instance, products are being produced but they don't reach the consumer due to shortages in energy or logistics.

Agriculture is a part of a response strategy. It is not the only one but it is one of the most important one because through agriculture we can not only restore food, but it also takes part in job creation, livelihood restoration, trade, economic growth, macroeconomic stability -- all the things that need to be present for development to take place.

An example is northern Uganda at the border of South Sudan. Two decades ago, violence in the region dominated international news. If you go to northern Uganda now, what you'd see unfolding is an agricultural revolution. There is a really vibrant private sector that works with farmers and provides technical assistance, telling farmers how to better use inputs, how to better grow, collect and market crops similarly train stakeholders of agriculture about effective agricultural methods. To a certain degree, northern Uganda has become a critical supplier for food security efforts managed by the World Food Program in neighboring South Sudan.

Similarly, we need to teach and train tomorrow's scientist, nutritionists, teachers and so much more, a combination of classroom instruction and applied agriculture experiences outside of the classroom build foundation for educated consumer and agriculturists that can contribute to the rebuilding of sector after conflicts and set the sector on the path to make post conflicts developments.

To conclude, if I want to contribute to the post conflict development I need an agriculture system that could effectively work in post conflict settings and the example of Uganda shows that agricultural education to the farmers and other stakeholders can help strengthen the sector to perform in these settings. Therefore there is a need to explore on **“Restoring and strengthening higher agricultural education in Afghanistan to contribute to the post conflict rebuilding of the sector and peacebuilding”**. I am gradually approaching towards my aim of sustainable development in a conflicted country and this research is one of the goal to achieve it.

The Department of Agricultural, Leadership and Community at Virginia Tech university, that is committed to provide the best possible opportunity for students to learn and develop as professionals in their areas of interest and also recognizes the significant contributions made by graduate students to departmental research, teaching, and Extension programs Therefore, I would like to pursue my Ph.D. in ALCE from Virginia Tech University as it will allow me to explore, teach and research about agriculture particularly, on sector rebuilding through education to make it contribute to post conflict settings and implement the skills learned on my country to improve its situation through agriculture education.

Summing up, agriculture plays a very central role. It’s not the solution to every challenge that countries face in fragile and conflict-affected situations, but it is much more than just a sector that only produces food. So we need to this sector to play part in such conditions and that requires effective agricultural education. Therefore, as a person who has been exposed to various theoretical and practical applications in research, I believe that I have the necessary perquisites to undertake the above mentioned research in the school of Agricultural Leadership and Community Education.