

**Projects for STEM CASE:** STEM presents an excellent opportunity for MS thesis students to interact with the industry in performing effective gap analysis to the current investor problems. The projects require a thorough understanding of current industrial problems at hand and require feasible solutions to convince the investors in stepping forward to invest in newer technologies/infrastructures. Below are the details for the projects.

- 1. Fuel Pelletization:** With the rapid advancement in technology, countries across the world are now shifting to renewable energy resources in order to ensure sustainable economic development. Fuel Pelletization offers a cleaner, safer, and renewable alternative to existing energy generation techniques.  
**Potential for CASE students/likely outcomes:** Introduction of such technology in Pakistan requires a complete technology development flow, cost benefit analysis, planning and development plan to create buy ins with the investors who are currently dealing in the industry.
- 2. Agricultural hydroponics:** It offers an alternative to the requirement of fertile soil for irrigation purposes. Soil-less irrigation with much greater yields are the results of deploying agriculture hydroponics infrastructure.  
**Potential for CASE students/likely outcomes:** Introduction of this infrastructure at national level requires a detailed feasibility study, cost benefit analysis, complete planning and development documentation.
- 3. Introduction of Bran Oil in the oil/ghee industry:** With the increasing health awareness among the masses across the globe, bran oil industry is greatly flourishing in developed countries.  
**Potential for CASE students/likely outcomes:** Convincing the investor to shift the oil industry reliance on bran oil requires a detailed feasibility study, cost optimization, planning and development plan on the bran oil extraction and usage methods.

MS thesis students (EM and MM) are requested to explore the potential areas and choose their thesis from within, or they can even present their own ideas on how to perform this gap analysis effectively. Contact below for more information.

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