

টুল এন্ড টেকনোলজি ইন্সটিটিউট

বাংলাদেশ শিল্প কারিগরি সহায়তা কেন্দ্র (বিটাক), শিল্প মন্ত্রণালয়

১১৬(খ), তেজগাঁও শিল্প এলাকা, ঢাকা-১২০৮।

গবেষণা প্রস্তাব

গবেষণা শিরোনাম (Title of the Research)	সমস্যার বর্ণনা (Statement of the Problem)	গবেষণার উদ্দেশ্যসমূহ (Objectives of the Study)	সাহিত্য পর্যালোচনা (Review of Literature)	গবেষণার গুরুত্ব (Rationale of the Study)	গবেষণা পদ্ধতি (Methods of the Study)	প্রত্যাশিত ফলাফল (Expected output)	কর্ম পরিকল্পনা এবং সম্ভাব্য বিবরণী (Action Plan and Tentative Budget)	গ্রন্থ পঞ্জী (Bibliograph y Reference)
১	২	৩	৪	৫	৬	৭	৮	৯
Local developme nt of Fruit & vegetable Drying machine	The moisture in most of the fruits are above 70% and prone to spoilage by microorgani sm and get rotten prior to reach the final customer. Also, abundant supply during season decreases marketabilit y. To combat spoilage, reduction of moisture to less than 15% works efficiently; this blocks the microbe action and increases	1.To develop this technology locally. 2.To create micro entrepreneur at village level. 3. To increase employment opportunity at village. 4.To support agriculture farmer. 5. To reduce poverty at village level.	It is well known that the drying takes place principally through two mechanisms: the movement of humidity from the interior of a material to the outside and the evaporation of humidity from the hot surface of a material to the surrounding. The transport of water is intimately related to some external factors like humidity, pressure, the nature and type of the exposed surface, temperature, and flow velocity Due to its complexity, the investigations on drying are still an area of interest to numerous researchers all over the world. The principal motivation in many of these projects of research in drying is to define the influence of the external factors over the process. The understanding of the drying process with all detail is needed for the design precise of equipment	It will be complementary support for farmers The fruits like jackfruit, pineapple, guava, etc. found abundantly in the rural areas of Bangladesh. During season, the price become very low as these are fast decomposable, difficult to transport and lack of process facility. Preserving through dehydration without changing color, test & smell may develop potential agro-based opportunities based on these fruits.	To remove water, the common methods are: 1.Sun drying 2.Air drying 3.Vacuum drying To retain composition, color, taste & smell vacuum drying gives the best result. An optimum result may attain by combining air drying & vacuum drying. Work will be done in association with LEI, engaging expert. Also engineering university students will be attached as a part of their study.	Local made low cost small fruit dryer machine will be developed. Agriculture production of fruit and vegetable will increase. Micro young entrepreneur will be created at village level as well as employment opportunity will increase. Consumer will get dried fruit in off season at low cost.	Time frame: 1.Design- 5 weeks 2.procurement- 4 weeks 3.Manufacture- 8 weeks 4.Redesign- 2 weeks 5.Manufacture- 2 weeks 6.Quality control- 2 weeks 7.Final test- 1 weeks Total 24 weeks Tentative Budget: 1.Raw material- .7 lac 3.Electrical and control part- .3 lac 5.Other- .2 lac Total cost 1.2 lac	Principles of Sustainable Drying By Jorge del Real-Olvera

	the shelf life for consumption of end customer.		employed scientific principles, maintaining the quality of the product and energy optimization, but overall, from a viewpoint sustainable					
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Small Fruit Dryer machine



