

Climate Smart Agriculture: Nano Technology in Solar Drying

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Abstract : Addressing food security and climate change challenges have to be done in an integrated manner. To increase food production and to reduce emissions intensity, thus contributing to mitigate climate change, food systems have to be more efficient in the use of resources. To ensure food security and adapt to climate change they have to become more resilient. The changes required in agricultural and food systems will require the creation of supporting institutions and enterprises to provide services and inputs to smallholders, fishermen and pastoralists, and transform and commercialize their production more efficiently. Thus there is continuously growing need to switch to green economy where simultaneously causes reduction in carbon emissions and pollution, enhances energy and resource-use efficiency; and prevents the loss of biodiversity and ecosystem services. Smart Agriculture takes into account the four dimensions of food security, availability, accessibility, utilization, and stability. It is well known that, the increase in world population will strengthen the population-food imbalance. The emphasis on reduction of food losses makes a point on production, on farmers, on increasing productivity and income ensuring food security. Where also small farmers enhance their income and stabilize their budget. The use of solar drying for agricultural, marine or meat products is very important for preservation. Traditional sun drying is a relatively slow process where poor food quality is seen due to an infestation of insects, enzymatic reactions, microorganism growth and micotoxin development. In contrast, solar drying has a sound solution to all these negative effects of natural drying and artificial mechanical drying. The technical directions in the development of solar drying systems for agricultural products are compact collector design with high efficiency and low cost. In this study, using solar selective surface produced in Selektif Teknoloji Co. Inc. Ltd., solar dryers with high efficiency will be developed and a feasibility study will be realized.

Keywords : energy, renewable energy, solar collector, solar drying

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