

STATEMENT OF RESEARCH

Industrialization and Urbanization increases the wastages (by products of feedstock) as well as increasing the demand of fuel. **“ETHANOL PRODUCTION AND BIOFUEL RESEARCH CENTER ON ADAPTIVE REUSE OF JANAKPUR CIGARETTE FACTORY”** is one of the most important design to re-utilize the abandoned building and also to use by-products of industry to minimize waste and maximize the environmental benefit. As we know the importance of disabled people so, we called as especially able similarly, Abandoned buildings & wastage are more valuable thing if it is utilized / renovated otherwise it destroy our environment.

This report also aims to investigate the extent to which industrial buildings can be used as a tool for guiding the design for the reuse of these buildings for maximize reuse and minimize wastage.. Just like we, as human changes, adapt to new situations and age as we go through life, so do the buildings and environments that surround us. Just as we, as a society, look to our history/ past to inform our decisions, it is important that we consider a building's history/past as we take steps to transition a building from one function to another and give it a new life. Janakpur cigarette factory was heart of Janakpur due to which more than 4000 people get employed and establish village people too so they work in factory in night shift and farming at day time and also as workers are of different religion working there so it makes vibrant to all other business even Janakpur is a central space all other road networks. . Additionally, it is a key to this thought that this transition be made in a way that will allow the building, and its new functions, the ability to not only survive in, but also support the economy in which it exists.

It is necessary to substitute non-renewable energy to renewable energy by utilizing the byproducts of feedstock produced from industry. Ethanol is a current solution without changing the petrol engine by the mixture of ethanol up to 20% with gasoline. 100% ethanol fuel is used by changing the engine which has more benefits rather than gasoline and others biofuel. This, in turn, will have a positive effect in terms of job and income generation in the rural areas. Improvement of agricultural practices for sugarcane could also have an indirect and positive effect on improving other agriculture activities. Furthermore, the use of ethanol in the transport sector will have a positive environmental effect while reducing CO₂ emissions and reducing pollution. Finally, the substitution of ethanol in transport will imply lower imports of oil products and less draining of resources from the Nepalese economy. Ethanol production and fuel substitution in Nepal—Opportunity to promote sustainable development and climate change mitigation.

Industrial heritage is important in the life of communities providing a link **to the past and contributing** to the development of the unique identities as communities change and utilization of byproducts/wastages of feedstock and research based on it is important to **meet the energy demand of increasing population** for future generation and for **environment benefit**. Thus rather than to leaving them to fall into disrepair through neglect or being rendered unrecognizable, these wastages and buildings that are sympathetically recycled must be adapted

into accessible and useable places.

Following are provided for blending of ethanol for petrol as a burning solution of current petrol and diesel consumption and for selection of site, design development and execution of an industrial adaptive reuse project into other industry:

Adaptation for a new use must respect the **heritage significance** of the existing site and its context.

- Utilize the **embodied energy** of the building material and helps to **reduce carbon foot print**.
- New **environmentally sustainable design interventions** such as solar power, recycle wastewater, recycle wastage as biogas production from ethanol wastage, Earth air tunnel and insulation can often be successfully incorporated in reused sites and can bring significant additional benefits.



Uses of different byproducts of sugarcane

- Sites can be small or large, but all must be adapted to contribute in the retention of the identity of a place.
- Reuse of machines and buildings is carefully considered in terms of the contribution it can make to the broader urban context. Reuse of the machine is maximize as for similar machine use for further process
- **Community expectations** must be well studied as it is not uniform and can change over time.
- The structural conditions is strengthened before imposing new function.
- **Up to E20** (20% of ethanol) should blend for petrol engine.
- For the run off from pure form of ethanol, **engine should designed** according to that as electrical car and solar.
- Ratio blending method is use for the blending of ethanol in gasoline.
- This project paid off farmers better and motivate farmers.