

UPSC

(Please do not write anything except the question number in this space)

कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

उम्मीदवारों को इस हारिफ में नहीं लिखना चाहिए।
Candidates must not write on this margin

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
Content of the Question is more important than length.
(Specimen Answer Booklet - For Practice Purpose Only)

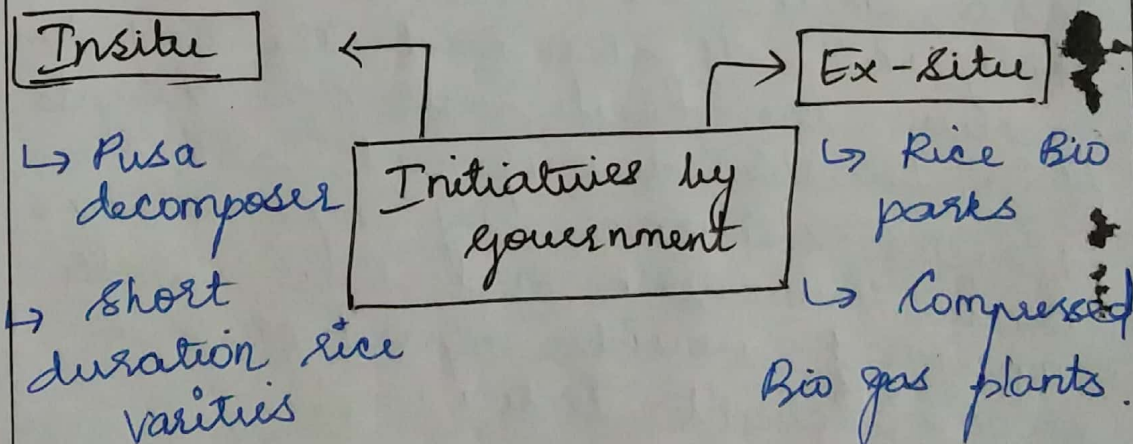
Q A project to use paddy straw to produce Compressed Bio gas can transform the rural economy of India - Discuss.

The Beginning of a Renewable energy revolution rooted in agriculture are taking shaping in India with the first bio-energy plant of a private company in Sangrur distict of Punjab having commenced commercial operations. It will produce Compressed Biogas [CBG] from paddy straw, thus converting agricultural waste to wealth.

Effects of stubble burning:

→ Results in highly polluted condition of National Capital Region [NCR] throughout winter.

→ Results in increased soil temperature



UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
Content of the Question is more important than length.
(Specimen Answer Booklet - For Practice Purpose Only)

उम्मीदवारों को
इन सन्निभ में
कोई लिखना
नाहीं।
Candidates
must not
write on this
margin

NITI Aayog approached FAO India in 2019 to explore converting paddy straw and stubble into energy and to identify possible ex-situ uses of rice straw.

Production of CBG:

- Through anaerobic decomposition of Biomass
- Produced from biomass sources - agri residue, cattle dung, sugarcane, municipal solid waste etc.

Advantages of CBG:

- Clean fuel with less emission
- Produced from already used waste material
- Wastes turned into energy to utilize for electricity, heating, cooking & fertilizers.

Sustainable Alternative Towards Affordable Transportation [SATAT]:

- Initiated by Ministry of Petroleum & Natural Gas.
- Objective: Increasing the production of CBG by encouraging entrepreneurs to set up CBG plants

Effectiveness of rice straw in energy technologies:

- Meet scheme target: with 30% of

(Please do not write anything except the question number in this space)

कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
Content of the Question is more important than length.
(Specimen Answer Booklet - For Practice Purpose Only)

उम्मीदवारों को इस दृष्टिकोण में नहीं लिखना चाहिए।
Candidates must not write on this margin

Rice straw produced in Punjab, 5% CBG production target set by SATAT Scheme can be met.

→ Circular economy: Paddy straw from one acre of crop can yield energy output (CBG) worth more than ₹ 17,000 in addition of more than 20% to the main output of grain.

→ Ecological Benefits: The slurry or fermented organic manure from the plant (CBG) will be useful as compost to replenish soils heavily depleted of organic matter and reduce dependence on chemical fertilizers.

→ Economic gains: It could also increase local entrepreneurship, increases farmer's income, provide employment opportunities to rural youth in the large value chain from paddy harvest, collection, baling, transport and handling of Biomass and in the CBG plant.

Thus this initiative is replicable and scalable across the country and can be a game changer for the rural economy.