

RECYCLING WASTE  
IN TROPICAL COUNTRIES:

## TRANSPAILLE: ENERGY, FERTILIZATION, DEPOLLUTION



**T**HE SENEGALESE AGRICULTURAL RESEARCH INSTITUTE (ISRA) has for a few years been experimenting the Transpaille fermentation process, whose environmental impact is highly significant.

Developed by IRAT\* with financial support from AFME\*\* Transpaille recovers and processes agricultural wastes (solids and liquids) to produce energy and compost, after fermentation.

Of variable size, Transpaille can be used on a family basis, with 3 m<sup>3</sup> "SANIGAZ" units, but also by medium-sized agricultural installations, with 10 to 20 m<sup>3</sup> units and even on an industrial scale with 100 m<sup>3</sup> digesters.

It thus has numerous applications.

### TRANSPAILLE IN RURAL AREAS

● The energy is produced in the form of "biogas", and can be used :

- to supply household cooking equipment, replacing wood, which has become scarce, and thus contributing to the regeneration of wooded areas;
- to pump water for crop irrigation;
- for lighting;
- to operate small-scale workshops such as flour and crushing mills, etc.

● Compost, an excellent organic fertilizer, plays a part in restoring soil fertility and thus helps to fight desertification.



IRAT : Institut de recherches agronomiques tropicales et des cultures vivrières  
(CIRAD food crops department)  
AFME : French Energy Management Agency Hence

*Ensuring autonomy of energy for agricultural installations  
by recycling local renewable resources.*



*Transpaille in the Thiès slaughterhouse  
(Agriforce-SERAS project)*

## TRANSPAILLE IN INDUSTRY

The process, which has been tested for 6 years in rural areas, has also proved to be useful for reprocessing industrial waste and effluent.

In Senegal at the Thiès slaughter-house, a 40 m<sup>3</sup> Transpaille unit has recently been installed and will make it possible to produce 15.000 electric kwh and 80 metric tons of compost annually by purifying slaughter-house wastes.



*Recycling compost to improve soil fertility  
and stabilize productivity.*

In addition, this installation provides the slaughter-house with an excellent way of controlling pollution and harmful effects.

Apart from producing energy, each Transpaille unit, by recycling humiferous compost of high agronomical value, contributes to the application of an overall strategy for environmental protection and restoration.

The Transpaille process, distributed by the economic interests group AGRIFORCE, was awarded the "Technology without Frontiers" prize, created for the European Environment Year (1988), in the "Enterprise and Environment" section.

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