UZBEKISTAN VILLAGE ON THE FARM NATURAL WASTE AGAIN OF WORK IMPORTANCE AND PROSPECTS

Shukhratov Anvar Shuhrat ugli
Tashkent international agrarian university student ,
Latipov Vafo Bahranovich
Tashkent international agrarian technical sciences of the university doctor
Ubaydullaev Farkhod Bakhtiyarullaevich
Tashkent State Agrarian University associate professor
https://doi.org/10.5281/zenodo.15165116

Natural waste again of work importance . Natural waste again work not only ecological stability to provide , but economic efficiency increase It is also important for Uzbekistan . village farm in the field working removable organic waste every year noticeable in quantity For example , Uzbekistan village 10 million tons per year on the farm organic waste , including plant remains and animal waste working If this is waste again if not used , they soil and of the air pollution reason to be possible . Plant remains , for example , many plants harmful This is a place for own in turn crops to the quality impact does .

Composting process : natural waste again of work effective method . Composting process natural waste again of work effective method this is process of the soil quality noticeable at the level improves . Composting through taken fertilizer the soil organic substances with enriches and his/her microbiological activity encourages . World according to composting process very effective that proven : for example , in Japan and In Germany organic waste composting through per year millions ton waste again This is processed . of the process successful to be for some technological aspects , such as aeration and the temperature management , separate requires attention . Research this shows that in composting temperature to 55-65°C rise bacteria and microorganisms faster performance provides , this and fertilizer of quality to improve take is coming .

Natural waste again work technologies . Natural waste again of work one how many different technologies available . Uzbekistan village farm in the field the most wide widespread technology is composting is , this of the process successful done increase for following technician aspects important :

1. **Waste sorting and Preparation** : If waste sorting process right done if not increased , composting effective For example , organic metal from waste and plastics separate to take necessary , because they does not decompose . Statistics according to Uzbekistan village on the farm working removable more than 30% of waste from plastic consists of .

2. **Aeration and oxygen** : Composting in the process of oxygen lack and low temperature the soil to pollution take arrival possible . Good aeration process compost right disintegration and the optimal temperature to save provides . Uzbekistan some in the regions many farmers aeration methods to apply they started this and composting process effective and fast done to increase opportunity creates .

3. **Temperature and humidity Management** : In composting temperature and humidity level very important . If the temperature is not optimal , decomposition process slows down and compost of quality to decrease take comes . Example for , in Germany compost in preparation temperature to 60°C ascent excess humidity to decrease help gives , this and compost fast and good quality to be prepared opportunity gives .

Uzbekistan village on the farm natural waste again of work advantages of **Uzbekistan** village on the farm natural waste again of work advantages clear and wide comprehensive . The following facts this of the process efficiency shows :

1. **Ecological stability** : Uzbekistan village on the farm natural waste again processing the environment from pollution For example , in Uzbekistan , 100 thousand people die every year . tons more than village farm waste deep manure as to the ground is entered , this and ecological in terms of dangerous and the soil to salinity take It comes . Composting this the process ecological clean and effective to the method turns .

2. **Soil fertility Recovery** : Composting in the process taken fertilizer of the soil water storage ability increases , this and village on the farm soil erosion prevent Research this shows that compost with enriched in the soil crops up to 20-25% more harvest gives .

3. **Economic Efficiency** : Organic of fertilizers working release chemical fertilizers with compared to cheaper For example , in Uzbekistan compost preparation expenses chemical to import fertilizers 40-50% cheaper than . This and small farmers for very important economic is an advantage .

4. **Salted on the ground the soil restoration** : Uzbekistan some in the regions salty lands available . Composting process salty of lands fertility in recovery help gives . In Japan salty lands in recovery from compost use as a result, 30-40% more harvest taken .

Difficulties and Problems . Natural waste again of work wide current to be one row to difficulties face They are coming . between :

1. **Technological infrastructure shortage** : in Uzbekistan natural waste again work technologies still underdeveloped and wide widespread not . New technologies current to grow for state and private sector by more investments introduction necessary . Example for , in Germany waste again work technologies from 5 billion euros per year more than money is spent .

2. **Village in places infrastructure Weakness** : Village in places waste separation and again work for necessary infrastructure This is especially true for small farmers for problem More than 70 % of Uzbekistan village population natural waste again to work done in increasing does not participate .

3. **Population and farmers Education** : Rural population and farmers natural waste again work according to teaching necessary . If this issue is taken into account if not received , current being done new technologies done in increasing difficulties to the surface arrival possible . Example for , in Uzbekistan village farm in the field done increased new ecological programs only 15-20% of farmers by complete done is being increased .

Conclusion and offers

Natural waste again work and composting Uzbekistan village farm in the field ecological stability supply , soil fertility restoration and economic efficiency increase for important is a tool . If this the process successful done increase for necessary infrastructure , modern technologies and farmers and village population education If provided , Uzbekistan village farm and ecological status noticeable at the level will improve .

Uzbekistan for natural waste again of work prospects very big and this in the field done increaseable positive measures of the country economic and ecological to develop big contribution Addictive .

1. PREPARATION STEP

Project Purpose : Natural waste again work through effective boys and girls working to release , that with together salty on the ground soil fertility restore . Our our project to the environment damage without bringing resources again work and growth for new opportunities to create strives for . Natural waste again work and composting today's ecological of problems effective from solutions one is considered . In Uzbekistan village farm and house on their farms harvest to be organic waste most open to the fields thrown away , this ecological to the environment damage Composting method through this waste again work not only waste size reduces , maybe soil fertility also serves to increase does

Desired plans :

1. **Natural waste again Work** : Plant leftovers , food husks and other natural waste gather them pressing technology using to compost we will turn .
2. **High good quality compost working Release** : Pressing process develop and compost high good quality and useful to do . Every compost to the block seeds join them salty in the regions plants amount increase and decrease prevent to take .
3. **Salted on the ground soil fertility Recovery** : Pressed compost salty to the places spread it , the soil quality improve and growth conditions create . This is , itself in turn , the village farm productivity to increase help gives .
4. **Innovative Approach** : Technologies development , for example , artificial intellect and automated systems using , waste again work process optimization .

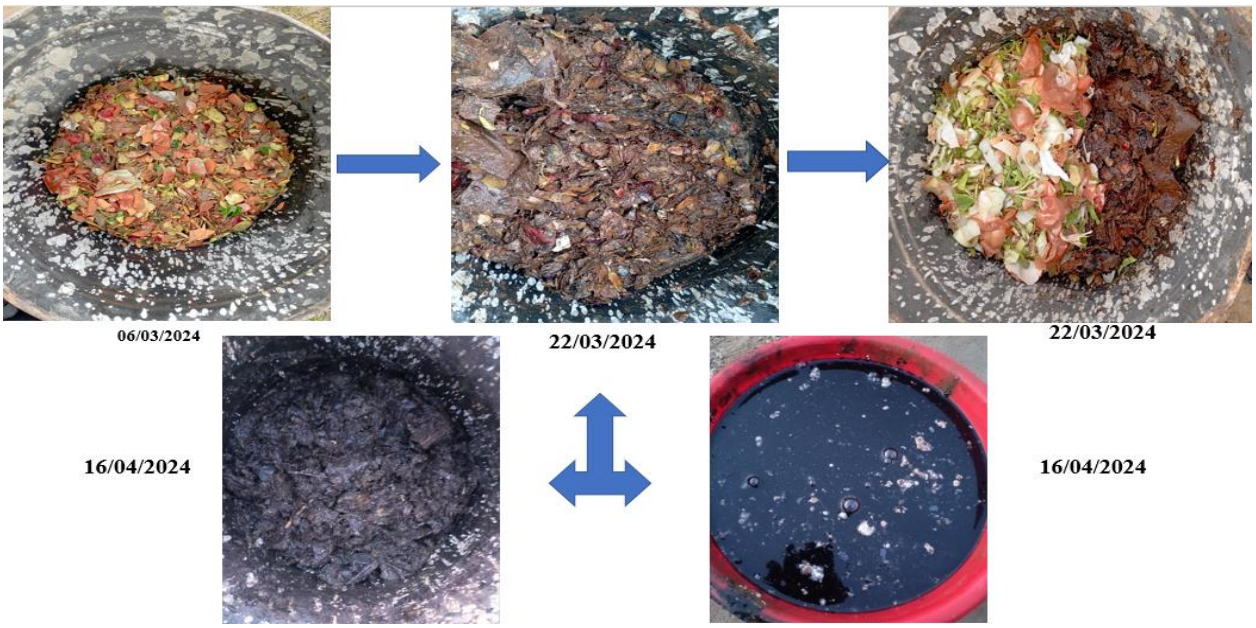
1. Composting technologies Composting is organic of materials microorganisms by decomposition as a result to the fertilizer rotation process . This process natural in the environment happened although it is effective take to go for scientific based approach is required .

3 types of composting in the form done increased :

- **Aerobic composting** – oxygen in the presence of microorganisms activity shows . This in process temperature between 50-70 °C is harmful microorganisms no will be done .
- **Anaerobic composting** – oxygen-free in the environment face giving , methane and carbonate anhydride gases separated Biogas working release for suitable method
- **Vermicomposting** – worms using organic waste again work method .

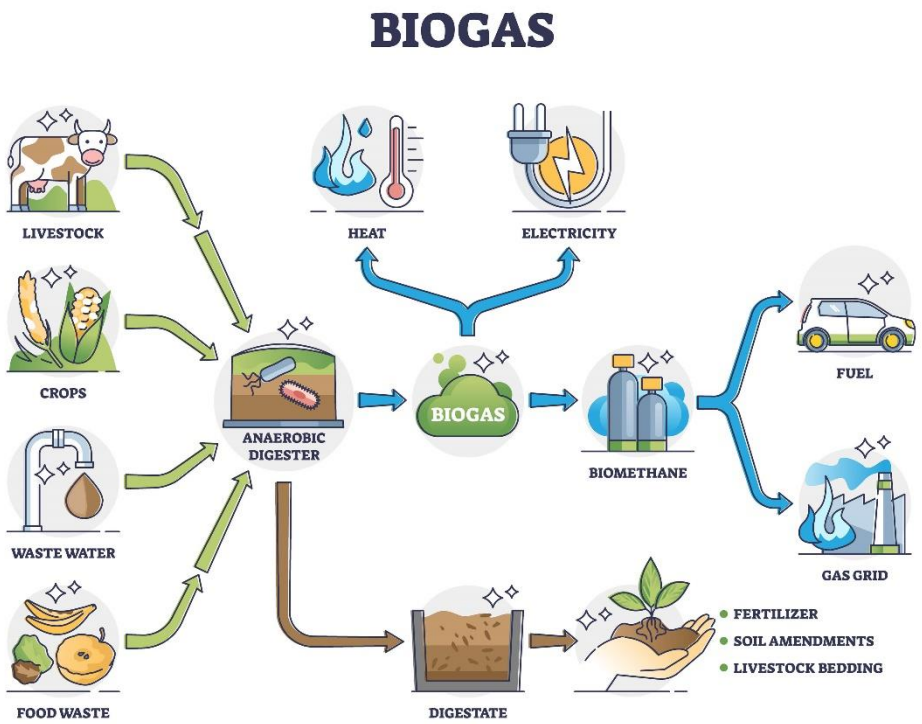
Exactly our in the project Aerobic and Anearob from composting used (2024.03)

Prepared Compost food food from waste consists of and in total 40 days prepared *and 2 types product were taken . These* **Juice (compost)** and **natural organic fertilizer** .



Project during aerobic from composting found and continuous accordingly additional product adding went . And Total 40 days Known within products are available in Olinda and 8.7 kg of manure out of 10 kg of total waste and 3L close juice received .

Project work mechanism



Natural waste again work ecological problems eliminate to grow and again recovering energy from sources of use effective method This is research project waste composting and anaerobic digestion to do technologies through organic fertilizer and biogas working release opportunities to study Aerobic composting as a result organic of materials decomposition accelerating , high good quality organic fertilizer harvest will be . Transferred experiments this showed that 10 kg of natural 8.7 kg of ecological waste clean fertilizer and 3 liters compost extract to be taken possible .

Biogas working release for anaerobic digestion to do from technology use alternative energy sources to develop service Anaerobic under the circumstances microorganisms organic materials methane and carbonate anhydride to the gas converts , resulting in biogas harvest This will be in process harvest to be digestate and village on the farm high to efficiency has fertilizer as usage possible . Again worked from waste removable from biogas electricity energy , heat source or transport fuel as use opportunities there is .

Project within waste again work processes improvement and waste sorting system on the road to put according to measures done Plastic waste separation and again work the environment protection in doing important importance profession will . With this together , compost and biogas working release processes automation , special waste assembly points organization to grow and ecological education programs develop according to research take This is going on . initiatives ecological stability provide and from waste effective use through economic efficiency to increase service does .



Here product anaerobic in the form being prepared and regular The duration of the decomposition at temperature (38C) and scope is being measured .

Sales Strategies:

1. **Online Marketing:**

1. **Creating your own website.**
2. **Promote via social media (e.g. Instagram, Facebook, TikTok).**
3. **Registration on online trading platforms (e.g. UZUM , OLX).**

2. **Local Markets:**

1. **Participation in local markets and exhibitions.**
2. **Cooperate with gardening clubs and communities.**
3. **Offer your products at local gardening stores and farmers markets.**

3. **B2B Sales:**

1. **Signing contracts with farms and gardening centers.**
2. **Attract corporate buyers with special offers and discounts.**

4. **Education and Training:**

1. **Conduct seminars and trainings on composting and environmental protection.**
2. **Offering special education packages to schools and educational institutions.**

5. **Product Demonstration:**

1. **Conduct demo sessions that show how your product works.**
2. **Offering free trials to customers.**

Potential Buyers:

1. **For home gardeners** - For use as organic fertilizer in home gardens.
2. **Small and medium farms** - Farmers can use compost to grow their crops using natural methods.
3. **Garden centers and stores** - They may sell your compost bin along with other gardening products.
4. **Schools and educational institutions** - Can be used in curricula to teach ecology and environmental protection.
5. **Agricultural and environmental organizations** - May be interested in environmentally friendly products.

6. **Restaurants and grocery stores** - Recycle their waste and use it as compost for their gardens.

City and local governments - For managing public parks and green spaces.

Used literature:

1. Baumann, H. (2016). Composting and Organic Waste Management. Springer International Publishing.
2. Zhang, H., & Guo, Q. (2018). Environmental Impact of Agricultural Waste in Developing Countries: Case Study of China and Central Asia. Environmental Science and Policy Journal.
3. Tugai, S. (2017). The Role of Organic Fertilizers in Sustainable Agriculture in Uzbekistan. Uzbek Agricultural Research Journal, 12(2), 34-40.
4. Makhmudov, D. (2019). Composting and Its Benefits for Soil Fertility in Central Asia. Central Asian Agronomy Review.
5. FAO (2021). Food and Agriculture Organization of the United Nations: Guidelines for Organic Waste Management and Recycling. FAO, United Nations.
6. UNDP (2020). Sustainable Waste Management and Composting Practices in Uzbekistan. United Nations Development Programme.
7. Sharma, P., & Gupta, R. (2020). Soil Fertility and Its Impact on Agricultural Productivity: Role of Composting. Soil Science and Plant Nutrition, 66(1), 45-55.
8. Borlaug, N. (2007). The Green Revolution: A Global Impact on Agriculture and Food Security. Journal of Agricultural Science, 65(2), 112-119.
9. Uzbekistan Ministry of Agriculture (2022). Annual Report on Agricultural Waste Management in Uzbekistan.
10. Jernigan, D., & Brown, P. (2015). Recycling and Reuse of Agricultural Waste. Earthscan Publications.