



NETAJI SUBHAS UNIVERSITY

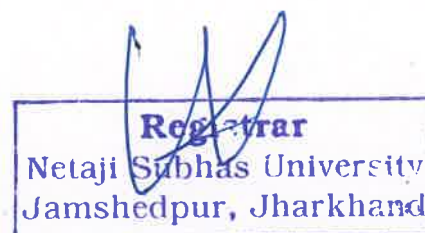
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Estd. Under Jharkhand State Private University Act, 2018

Geo-tagged photographs of the facilities

1. Rainwater harvesting	Yes
2. Borewell /Open well recharge	Yes
3. Construction of tanks and bunds	Yes
4. Waste water recycling	Yes
5. Maintenance of water bodies and distribution system in the campus	Yes





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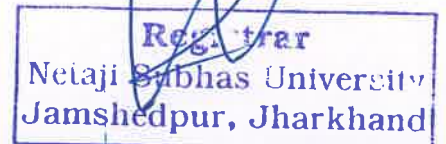
Rain Water Harvesting

Netaji Subhas University has undertaken a significant initiative to implement rainwater harvesting (RWH) across its campus. This initiative aims to optimize water usage, reduce dependence on external water sources, and contribute to environmental sustainability. By capturing and utilizing rainwater for non-potable purposes and replenishing the local groundwater table, the university demonstrates a strong commitment to the principles of water conservation, sustainable resource management, and environmental stewardship.

For Netaji Subhas University (NSU), Jamshedpur, this criterion is addressed through their broader "Green Campus and Environment Policy." Based on the university's official reports and Green Audit documents, here is how NSU fulfills the Rainwater Harvesting requirements

1. The Core Objective at NSU

Netaji Subhas University has explicitly integrated rainwater harvesting into its environmental policy with the primary goal of replenishing the groundwater table. The university recognizes the importance of water sustainability in the region and has committed to "Green Campus Initiatives" to minimize water wastage and maximize recharge.





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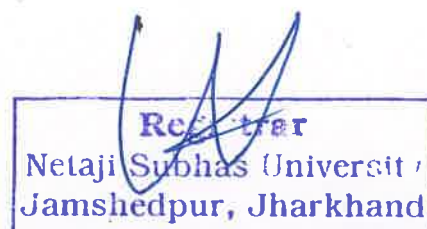
2. Implementation of Rainwater Harvesting (RWH)

NSU has implemented the following measures:

Rooftop Rainwater Collection: The University utilizes the large surface area of its academic and administrative building roofs to collect rainwater. Instead of allowing this water to run off into drains and be wasted, it is channelled effectively.

Groundwater Recharge: The collected water is directed into the ground to recharge the aquifers. The university's policy document states: *"Netaji Subhas University has committed itself to the effort to replenish the groundwater table by practicing rainwater harvesting."* This helps maintain the water level in the campus bore wells, ensuring a sustainable water supply even during dry months.

Infrastructure: The campus includes specific pits or recharge structures designed to filter and percolation rain water back into the soil, rather than letting it cause water logging or flow out of the campus premises.





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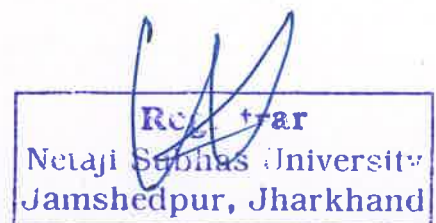
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Rain Water Harvesting-1



Rain Water Harvesting-2





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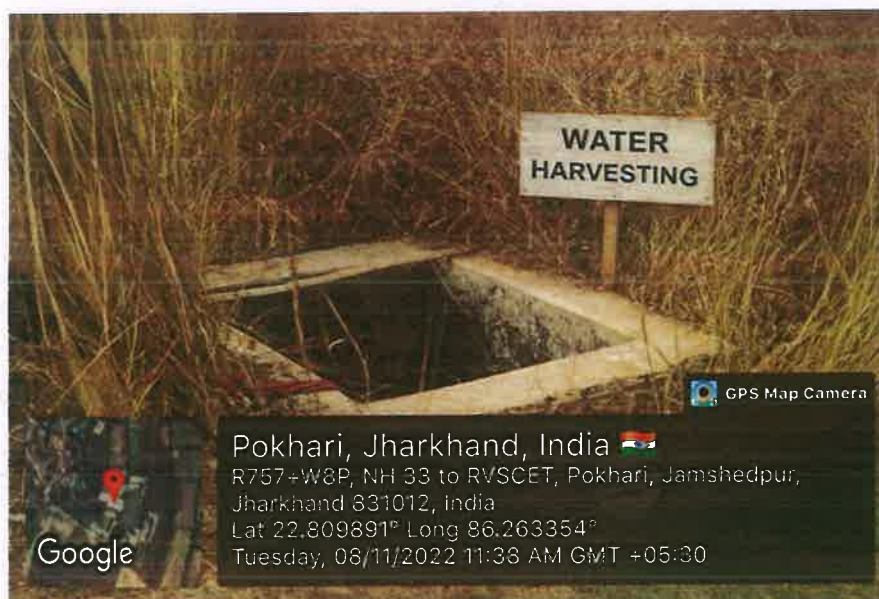
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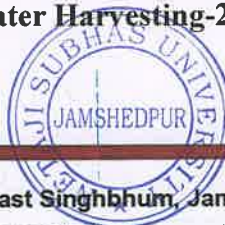
Rain Water Harvesting



Rain Water Harvesting-1



Rain Water Harvesting-2



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Borewell / Open Well Recharge

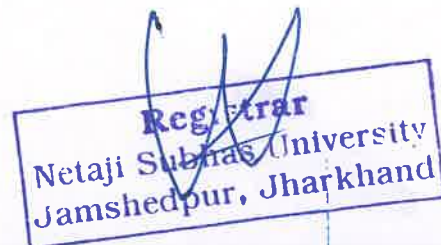
University has taken various steps for water conservation within the campus. One of them is installation of borewell and open well recharge. Details of the borewell and open well recharge is given below.

1. Borewell / Open Well Recharge

Objective: To reverse groundwater depletion caused by extraction for campus needs.

Netaji Subhas University (NSU), Jamshedpur, situated in the Chota Nagpur Plateau region where groundwater levels can fluctuate significantly, has prioritized **Borewell and Open Well Recharge** as a critical component of its institutional "Green Campus Policy." Understanding that groundwater extraction must be balanced with replenishment, the university has integrated scientific recharge mechanisms to ensure water sustainability.

The system functions by capturing the substantial volume of rainwater runoff from the expansive rooftops of the Academic Blocks and Hostels. Instead of flowing into drains, this water is channelled through a dedicated pipe network into specific **recharge pits** and **percolation tanks** located adjacent to the active borewells.





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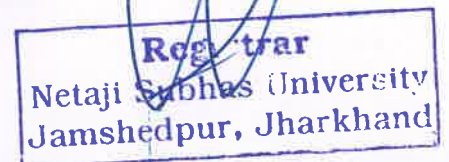
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At Netaji Subhas University, the primary source of water is groundwater extracted through borewells. To ensure sustainable yield and prevent the water table from plummeting, the university has integrated **Artificial Recharge** techniques.

- **Mechanism:** The campus utilizes the rooftop rainwater harvesting network to channel filtered rainwater directly into the ground near existing borewells.
- **Impact:** This acts as a direct feeder to the aquifers, ensuring that the borewells remain functional even during the peak summer months of Jamshedpur.
- **Policy Alignment:** This directly fulfills the university's mandate (as per the *Green Campus Policy*) to "replenish the groundwater table" rather than just consuming it.



Borewell- 1 (Shaheed Raj Guru Block)





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Borewell / open well recharge



Borewell- 1 (Shaheed Raj Guru Block)



Borewell-2 (Chandra Shekhar Azad Block)

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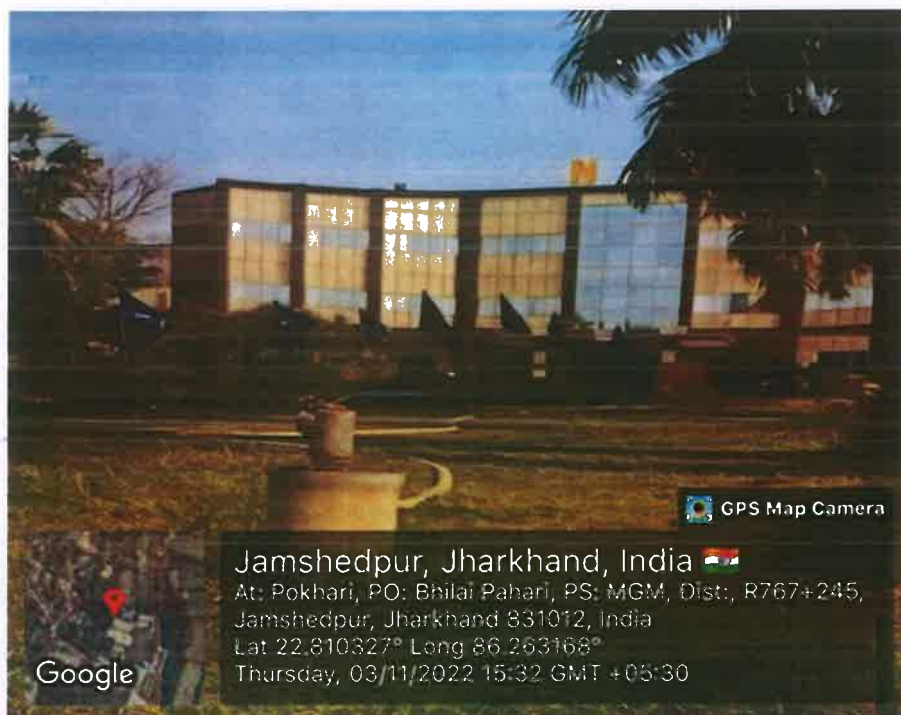
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Borewell-3 (Bal Gangadhar Tilak Block)



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Borewell-2 (Chandra Shekhar Azad Block)



Borewell-3 (Bal Gangadhar Tilak Block)



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Borewell-4 (Shaheed Bhagat Singh Block)



Borewell-5 (Veer Savarkar Block)



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Borewell-4 (Shaheed Bhagat Singh Block)



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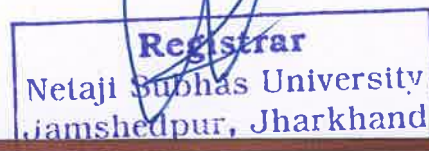
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Construction of Tanks and Bunds

At Netaji Subhas University (NSU), Jamshedpur, the **Construction of Tanks and Bunds** is a strategic infrastructural measure designed to optimize water storage and manage surface runoff effectively across the undulating terrain of the campus.

Storage Tanks (Segregated Infrastructure): The university has established a robust network of 10 overhead water storage tanks with capacity of 2000 litre each. A key feature of this infrastructure is segregation. Distinct tanks are designated for potable water (treated via RO) and non-potable water (raw borewell water or recycled RO reject water). This separation ensures that high-quality water is reserved for drinking and sanitation, while stored secondary water is efficiently utilized for gardening and cleaning, thereby reducing the stress on fresh groundwater extraction.

We have a separate tank system for drinking as well as bore water for the convenient usage. Water from the bore well, open well and other water bodies are collected through the pipes and stored in the tank (at every block). Maintenance department of the college taking responsible for cleaning the tanks regularly as per the Government norms. The proper Bunds are constructed in the campus and used for retaining the water, creating obstruction and thus to control erosion. Bunds can be used to hold rainwater in lightly sloping plains and to ensure that bunds continue to provide the necessary protection against leaks and spills etc. Hence bunds should be assessed periodically to ensure that they continue to provide sufficient integrity around the campus.





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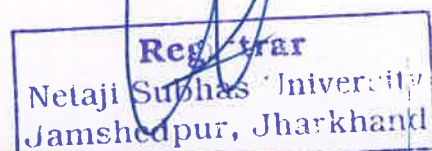
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Together, these facilities demonstrate NSU's commitment to structural water conservation and sustainable land management. While "bunds" are typically associated with large agricultural campuses, NSU addresses this through strategic storage infrastructure to manage surface runoff.

- **Storage Tanks:** The University has installed ample overhead and underground storage tanks to segregate water types (freshwater vs. treated/recycled water). This segregation allows for the strategic use of lower-quality water for cleaning and gardening without tapping into fresh drinking supplies.
- **Runoff Management:** The campus landscaping is designed to act as natural containment (soft bunds) where excess rainwater is held temporarily in garden beds to allow for natural percolation, preventing rapid runoff that causes soil erosion.



Water Tank: Shaheed Sukhdev Block





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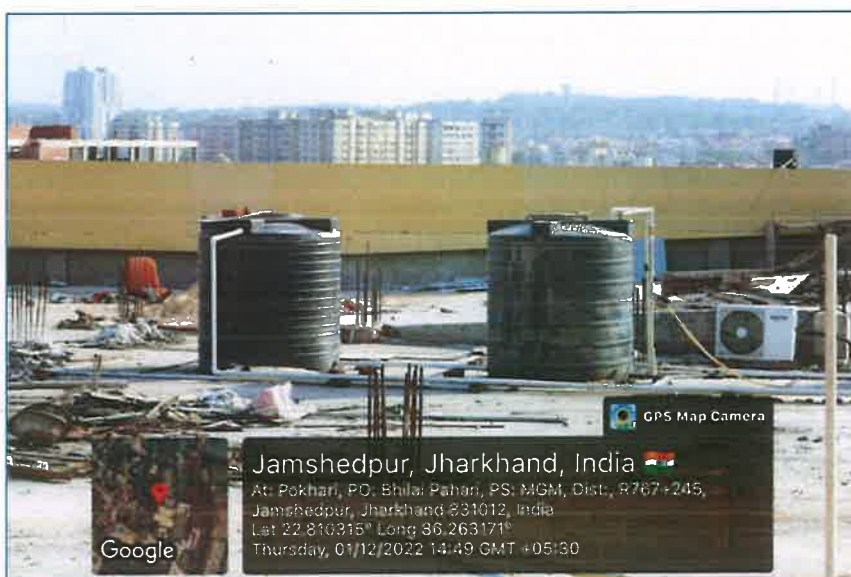
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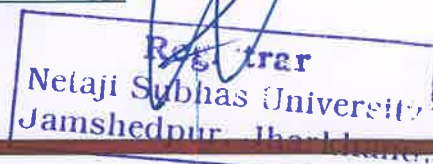
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Water Tank: Shaheed Bhagat Singh Block



Water Tank: Chandra Shekhar Azad Block



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Construction of Tanks and Bunds



Water Tank: Shaheed Sukhdev Block



Water Tank: Shaheed Bhagat Singh Block



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Water Tank: Chandra Shekhar Azad Block



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Waste water recycling

The wastewater treatment plant at Netaji subhas University represents a pivotal initiative in addressing the growing challenge of water scarcity and environmental sustainability. This facility not only ensures the safe treatment of wastewater generated within the campus but also demonstrates advanced technologies for water reuse and resource recovery. The plant is strategically located within the university campus to promote eco-conscious practices and serve as an educational resource for students.

Objective: To implement the "Reduce, Reuse, Recycle" methodology for liquid waste.

NSU has a specific "Liquid Waste Management" protocol cited in its environmental reports. The university actively converts "waste" water into a resource.

- **RO Reject Water Reuse:** A standout practice at NSU is the management of water from the Reverse Osmosis (RO) purification plants (capacity ~5000 liters). The reject water (brine), usually thrown away, is piped separately and utilized for **watering the campus gardens and plants**.
- **Greywater Usage:** Wastewater generated from washrooms and canteen areas is directed towards landscaping needs where possible, reducing the demand on freshwater for maintaining the university's green cover.

At Netaji Subhas University (NSU), Jamshedpur, Waste Water Recycling is a pivotal aspect of the sustainable ecosystem, aligned with the institution's "Green Campus" mandate. Recognizing that water is a finite resource, the university has implemented strategic measures to minimize wastage through the "Reduce, Reuse, and Recycle" philosophy.

The most significant initiative in this regard is the utilization of **RO Reject Water**. The campus houses high-capacity Reverse Osmosis (RO) plants to provide safe drinking water for students and faculty.

Typically, the concentrated brine (reject water) from such plants is discarded; however, at NSU, this



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water is collected and channelled into a dedicated piping network that directly feeds the campus landscaping and gardens.

This practice serves a dual purpose: it responsibly manages the high-TDS (Total Dissolved Solids) output without polluting local drains, and it significantly reduces the demand on fresh groundwater for horticultural needs. By turning potential waste into a valuable resource for maintaining the university's lush green cover, NSU effectively reduces its freshwater footprint, demonstrating a practical and impactful commitment to environmental conservation.



Waste water recycling center



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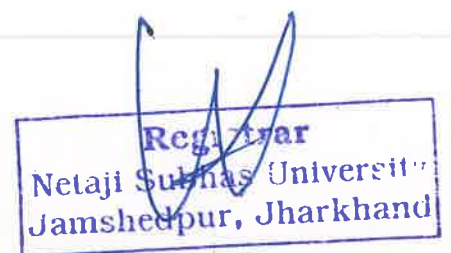
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Waste water recycling center





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Waste water recycling



Waste water recycling center



Waste water recycling center



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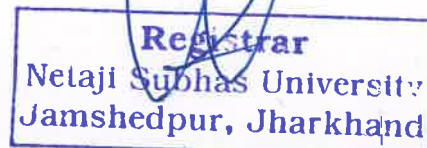
Maintenance of water bodies and distribution in the Campus

At Netaji Subhas University (NSU), Jamshedpur, the efficient **maintenance of water bodies and distribution systems** is a critical operational mandate, ensuring both resource conservation and the health safety of the campus community. The university employs a proactive maintenance strategy overseen by the Estate Office and the Civil Engineering Department.

The campus relies on a complex network of underground and overhead storage tanks (sumps) to manage its water supply. These storage facilities are subjected to a rigorous **periodic cleaning schedule**, involving desilting and chlorination to prevent algae formation and contamination.

To minimize water wastage, NSU enforces a **"Zero Leakage Policy."** The maintenance team conducts regular audits of the distribution network checking pipelines, valves, and faucets for defects. Any identified leakage is rectified immediately to prevent the loss of treated water. Furthermore, the distribution system is segmented to ensure that potable water lines never cross-contaminate with raw water lines used for gardening and sanitation.

Water Conservation Measures : Several measures are in place to minimize water wastage and promote efficient usage which ensures Installation of low-pressure flush systems to reduce water consumption and awareness programs to educate all college stakeholders on the importance of economical and efficient water use. This comprehensive approach ensures the sustainable management of water resources across the campus.





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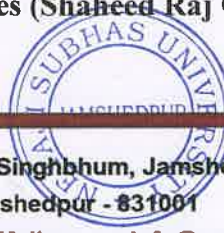
Maintenance of water bodies and distribution in the Campus



Distribution of water bodies (Chandra Shekhar Azad Block)



Distribution of water bodies (Shaheed Raj Guru Block)



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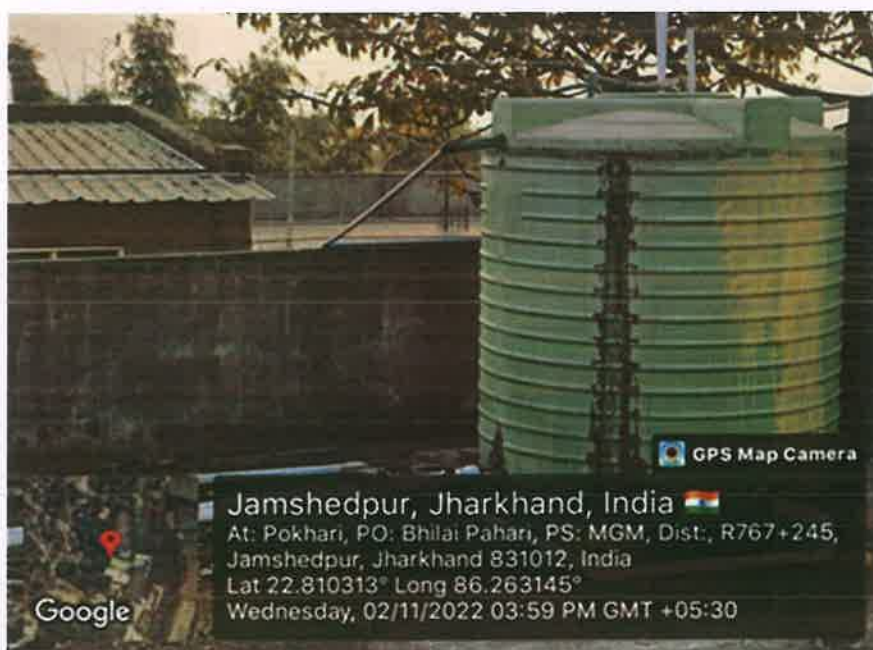
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Distribution of water bodies (Shaheed Sukhdev Block)



Distribution of water bodies (Bal Gangadhar Tilak Block)



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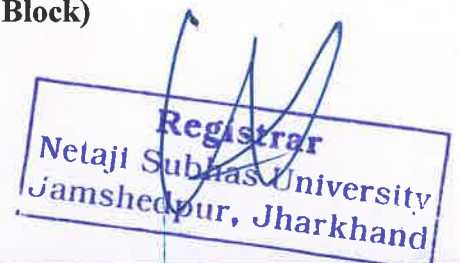
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Distribution of water bodies (Chandra Shekhar Azad Block)



Distribution of water bodies (Shaheed Raj Guru Block)



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