Based on close interaction of NJB with Sri Saravanakumar-SE of TNRRDA at his office at Channai the SE agreed to undertake construction of one of their rural roads under PMGSY with the use of JGT to evaluate the performance. A DPR for a stretch of 2.895 km of a site situated at about 70 km away from Erode starting from Karapadi Mayanam road to Pulliampattonumbiur road via Paripudur, Block- Bhavanisagar, dist. – Erode for strengthening of road sub-grade with the use of JGT was prepared and sent to NRRDA for approval which was approved by NRRDA. As desired by TNRRDA, NJB requested Sri Krishna Jute Mill, Elluru, AP to manufacture 724 gsm JGT and supply for the project work in order to deduce the carriage cost . The selected contractor of the road placed order for 2 m wide 21,000 m² JGT with the mill and procured the material.

As requested by TNRRDA and approved by Secretary NJB Sri P K Choudhury and Sri T Ayyappan visited the site to provide installation guidance on 12.07.2018. The road embankment was a newly constructed one on the virgin ground with silty sand having CBR of 5.2% to 5.8% and compacted to the desired level maintaining the camber of 3.5%. During demonstration, Sri Sekher - EE, Mrs. Anitha - AEE, Sri Periyaswamy - AE and contractor Sri tamilselvan along with his site engineer Sri Prabhakar and others were present. Though it was suggested to TRRDA by NJB, the material was not arranged to test from a accredited laboratory. Hence the fabric was physically examined at site and found in order but it was advised to get the material tested either from IJIRA or IJT specially for two important parameters like, tensile strength and porometry. The entire 8 m wide sub-grade (formation) was covered with 25 mm thick sand (machined). 4 no. of 2m wide JGT rolls were laid on the sand layer side by side with an overlap of 10 cm and fixed on to the ground with iron nails / wooden pegs. After laying JGT for a entire effective 2width of 7.5 m another layer of 25 mm thick sand had to be applied on JGT. As per their planning out of total stretch of 2.895 km, 300 m from end point will be constructed with conventional method (without JGT), the next stretch from 300 m to 1600 m will be constructed with 150 GSB (stone metal grade-II) and 150mm WBM (stone metal grade II &III) and the remaining stretch from 1600 m to 2895 m no GSB will be used but only 150 mm thick WBM. This will be done for comparative performance evaluation. Above the WBM 20 mm PMC followed by 6mm seal cost will be applied prior to open the road to traffic. As informed TNRRDA has already engaged NIT Trichur (STA) to undertake performance evaluating to find the effect of JGT.

During demonstration Sri Ayyappan had explained the JGT installation methodology in Tamil language to the junior officers and common people.

After demonstrating a presentation on JGT for various applications was given at the office of TNRRDA at Erode in presence of the concerned engineers. A set of technical literatures including manual was handed over to the deptt. for their reference.

On request of the AEE another site was also visited by NJB team. The site was a pond facing the problem of erosion of bank. The dept. desired to renovate the pond and convert it to a rain water harvesting tank provided effective erosion control measures are available. Type of soil was non cohesive sandy soil mixed with murom and slope was about 1:1. Slope length was about 12 m (inclined) and dimension was about 150 m x 100 m. It was suggested to the AEE and AE - Sri Sarvanam that slope should bring to the angle of internal friction of surface soil, a dose of thin layer of good soil to be spread on the slope surface and 500 gsm OW JGT to install followed plantation of vetiver grass or any other locally available species that thrive well in that locality. Photographs were taken of the both sites for reference.
Spreading sand over compacted sub-grade DSCN4101

Checking camber of formation surface
Compaction of sand with roller

Inspection of quality of JGT
Demonstration of laying of JGT at site

Fixing JGT on to the ground with nail