Let $\Omega$ be a Reinhardt domain with smooth boundary in $\mathbb{C}^n$ and let $\rho$ be a smooth and radially symmetric defining function for $\Omega$. Set $\lambda = \exp \left( \frac{1}{n} \rho \right)$ as a weight on $\Omega$. The weighted Bergman projection operator $B^\lambda_\Omega$ is an operator defined initially between $L^2(\Omega, \lambda)$ and $L^2_a(\Omega, \lambda)$. In this preliminary report, we discuss mapping properties of $B^\lambda_\Omega$ on $L^p(\Omega, \lambda)$ for $p \neq 2$. In particular, we observe a peculiar behavior due to exponential structure of the weight. This is joint work with Željko Čučković. (Received September 01, 2014)