

## Abstract

The minimal supersymmetric standard model, when extended to embed the see-saw mechanism, obtains two dimensionful parameters in its superpotential: the  $\mu$  parameter and the right-handed neutrino mass  $M_N$ . These mass parameters, belonging to the supersymmetric sector of the theory, pose serious naturalness problems as their scales are left completely undetermined. In fact, for correct phenomenology,  $\mu$  must be stabilized at the electroweak scale while  $M_N$  lies at an intermediate scale. In this work we construct an explicit model of the hidden sector of N=1 supergravity for inducing both  $\mu$  and  $M_N$  at their right scales. The model we build utilizes lepton number conservation and continuous R invariance as two fundamental global symmetries to forbid bare  $\mu$  and  $M_N$  appearing in the superpotential, and induces them at phenomenologically desired scales via spontaneous breakdown of the global symmetries and the supergravity. We discuss briefly various phenomenological implications of the model.