$$T(n) = \sqrt{n}\, T(\sqrt{n}) + n$$

let $n = 2^k$, we get

$$T(2^k) = 2^{\frac{k}{2}}\, T(2^{\frac{k}{2}}) + 2^k.$$

divide 2^k for both side.

$$\frac{T(2^k)}{2^k} = \frac{T(2^{\frac{k}{2}})}{2^{\frac{k}{2}}} + 1$$

let $G(k) = \dfrac{T(2^k)}{2^k}$

Then $G(k) = G({}^{k}) + 1$

According to Master Theorm.

$a = 1$ $b = 2$ $f(n) = 1$, $\log_b a = \log_2 1 = 0$

Case 2: $f(n) = n^0 = \theta(n^0 \log^0 n)$

$\therefore G(k) = \theta(\log k)$

$\therefore \dfrac{T(2^k)}{2^k} = \log k$ $\because k = \log_2 n$

$$\frac{T(n)}{n} = \log \log_2 n$$

$$T(n) = \theta(n \cdot \log\log n)$$