

Third World Hand Planter Brochure:

On this web site, we have included some basic information on maize area in the world and estimates of the total amount planted by hand. The problem with maize planted in the third world (Sub Saharan Africa, Asia, Central and South America) is that they essentially use heavy sticks whereby 2-4 seeds are planted per hill (first picture below, and left), roughly 35 cm apart. While incredibly inefficient, this method of planting is commonplace for third world maize farmers, largely dictated by terrain, circumstance, and resources. If single seeds could be planted 14-17 cm apart, much like conventional planters accomplish in the developed world, production levels could easily increase 25%. Despite the fact that third world maize yields are generally less than 2.0 Mg/ha (**Dowswell et al., 1996**), this 25% yield increase on 60% of the hand planted maize area in the third world would be worth more than 2.4 billion dollars/year (see calculations below)



We have developed a hand planter very similar in shape, size, and weight to the one seen in the first photograph on our web site, but that can reliably plant 1 seed, in various soil textures, moisture, and tillage systems. Initially, development, production, and delivery would need to be subsidized, thus the need for grant funds. But with time, local manufacture/industry creation of our new hand planter would also lead to more jobs. Added benefits of the new hand planter would be to remove chemically treated seeds (organophosphates, carbamates, chlordanes, +others) from the hands of small farmers. Decreased soil erosion from improved contour planting, and plant proximity will also be achieved. With time, we hope to modify the final prototype so as to accommodate mid season applications of urea fertilizer. Placing urea fertilizer below the surface, really via any mechanism is critical for improved nitrogen use efficiency.

This tool by itself would offer an affordable, easily adoptable technology for virtually all third world maize farmers. With modest funding for development and initial subsidized hand planters, this could provide widespread increases in third-world maize production that would rival most advances made in the last 50 years.