

# Usafirishaji wa maji ya Umwagiliaji kwa kutumia Mabomba

## *Pipe Conveyance System*

TIP imeamua kuuendeleza na kuuboresha utaalamu wa kutumia bomba badala ya mfumo wa mifereji kwa sababu zifuatazo:-

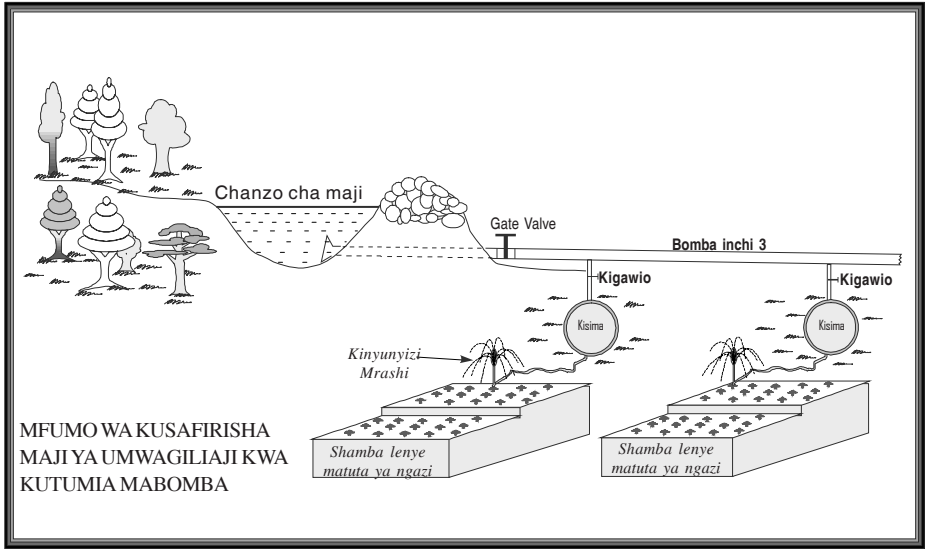
- kupunguza upotevu wa maji wakati wa kusafirisha
- kuongeza ufanisi wa umwagiliaji
- ni mfumo wa umwagiliaji ambao hausababishi mmomonyoko wa udongo

*TIP has developed a new innovation of using closed pipe system instead of open irrigation channel system in the transport of irrigation water for the following reasons:-*

- To minimize water losses in the conveyance system*
- To increase irrigation efficiency.*
- Marching the topography with the appropriate irrigation method that does not cause soil erosion.*

Kwa mfumo wa umwagiliaji ambao haujasakafiwa wenye uwezo wa kusafirisha maji kwa kiasi cha litera 5 – 20 kwa sekunde, ni gharama nafuu kutumia mfumo huu wa mabomba kutokana na upotevu mwingi wa maji ambao huweza kutokea ukitumia mfereji. Pamoja na hayo, maeneo mengi ambayo TIP hufanya kazi ni maeneo ya milima, usanifu unahakikisha kwamba maeneo yote yanapata maji ya umwagiliaji kuanzia banio (intake) mpaka kwenye mashamba ya umwagiliaji

*For irrigation systems with discharges ranging from 5 – 20l/s, to transport such small volumes in an unlined canal is uneconomical due to huge water loss. Furthermore, as most of TIP areas are in the highlands, the design takes the advantage of difference in elevation between the intake and the irrigated fields.*



Gharama ya mferaji uliosakafiwa kwa urefu wa mita moja wenye uwezo wa kusafirisha maji lita 20 kwa sekunde ni Tsh. 18,000/= . Lakini mabomba yajulikanyo kama PVC kiwango "B" hupunguza gharama kufikia kiasi cha sh. 7,000/= . Mfumo huu mpya umejaribiwa na kuonyesha mafanikio katika Eneo Bonde la Chome wilaya ya Same na Mlombola wilaya ya Mwanga.

*The cost per meter of lined canal whose capacity is 20l/s is 18,000/= . But if PVC class 'B' pipes are used the cost reduces to 7,000/= . This new system was successfully tested in Chome Catchment, Same district and Mlombola, Mwanga district.*

Wakulima huchangia gharama za kuchimbia mabomba pamoja na kujijengea visima vidogo kwa kila mkulima.

**Matokeo;**

- a) Imeongeza eneo la umwagiliaji kwa ekari 14 Wilaya ya Mwanga na ekari 5 katika

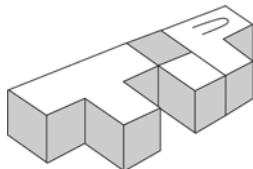
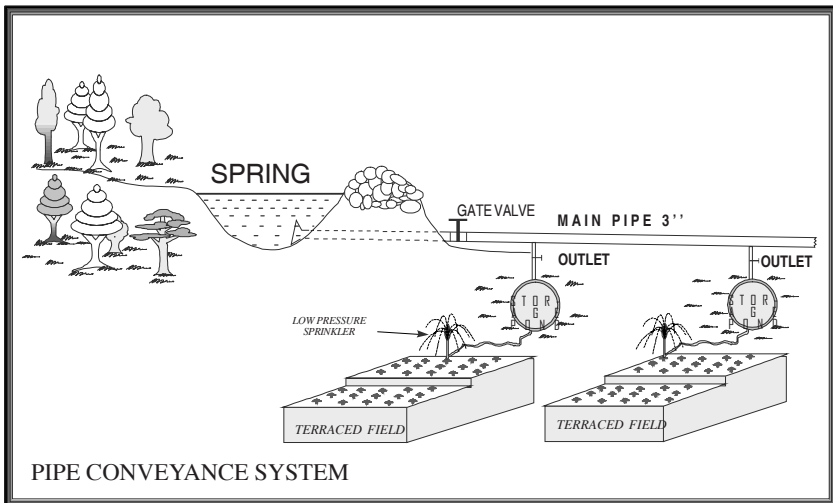
wilaya ya Same baada ya kutumia mfumo huu wa kusafirisha maji ya umwagiliaji kwa kutumia mabomba.

- b) Uzalishaji kwa kila eneo umeongezeka kwa asilimia 20%
- c) Kumeongezeka ufanisi wa umwagiliaji kutoka asilimia 30% mpaka asilimia 65%

*Farmers contributed to the cost of installation of the pipes by purchasing outlet fittings as well as construction of individual water storage ponds.*

**Results:**

- i) *There was recorded increase of irrigated area of 14 acres in Mwanga and 5 acres in Same after adopting pipe conveyance system.*
- ii) *Productivity per unit area has increased by 20%.*
- iii) *There has been an increase in irrigation efficiency from 30% to 65%.*



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