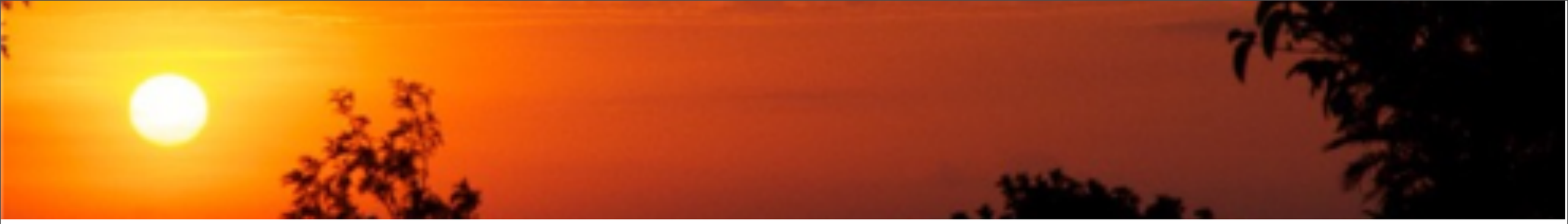


Sunnytek Drop water irrigation system

Installation example Gakwende in Burundi

Sunnytek

Satellite view of centre

Extra area of harvest after irrigation

Water tower with water from wells in mountains

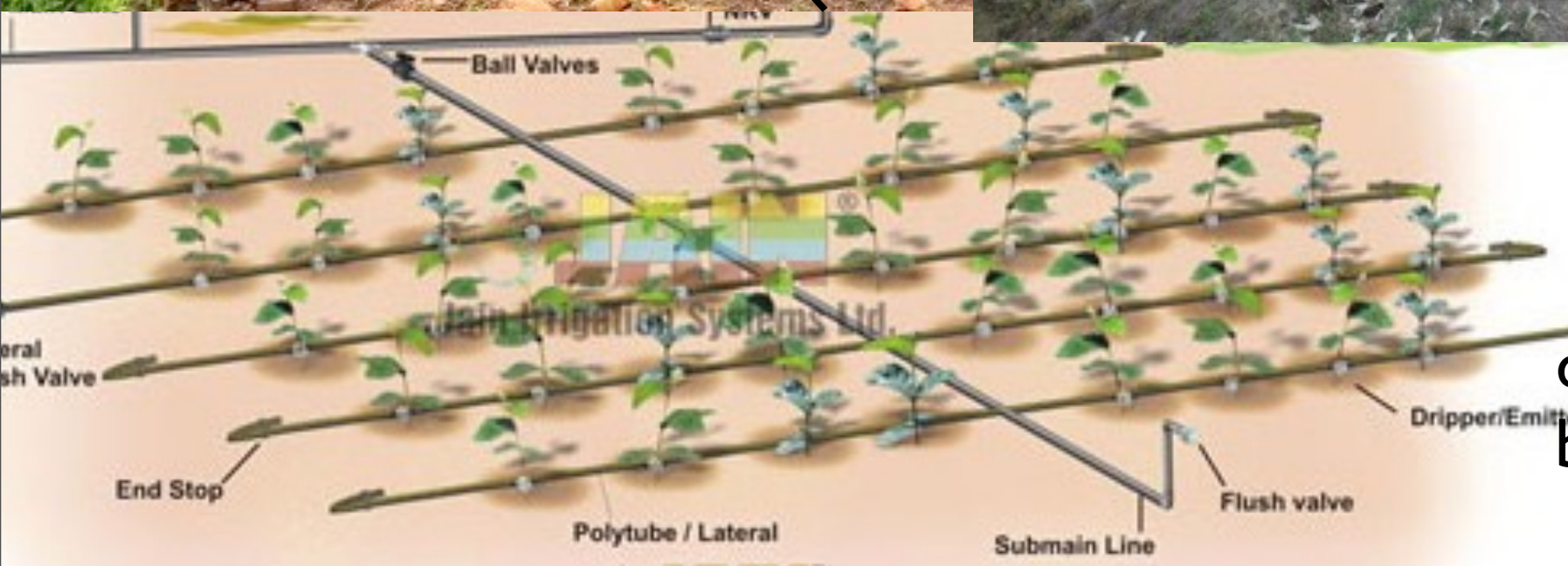
Harvest area can be 5-10X larger and all gives 3 harvests / year and not only 2

Area of harvest used today

Sunnytek

Principle in Gakwende

Water from Mountain well
Pipe to water tower
Tube with valve for irrigation
Waterflow is always available
at dry season



Valve turn on and off
and depending on
water availability and
dry earth the operator
balance all in best ways

Sunnytek

Installation leaky tubes

Putted on surface or buried and each hole leaks 2.3 liter / hour

Spacing is 40 cm between holes and max length is 140 meter per tube

Buried pipes gives water to roots and save water evaporation

Buried tubes do not give much water to unwanted vegetation

Buried tubes needs care and more works

Depth in earth of 5-10 cm is best

Sunnytek

Parts needed for an irrigation system

Left feeder tube in 35 mm diameter plastic tube

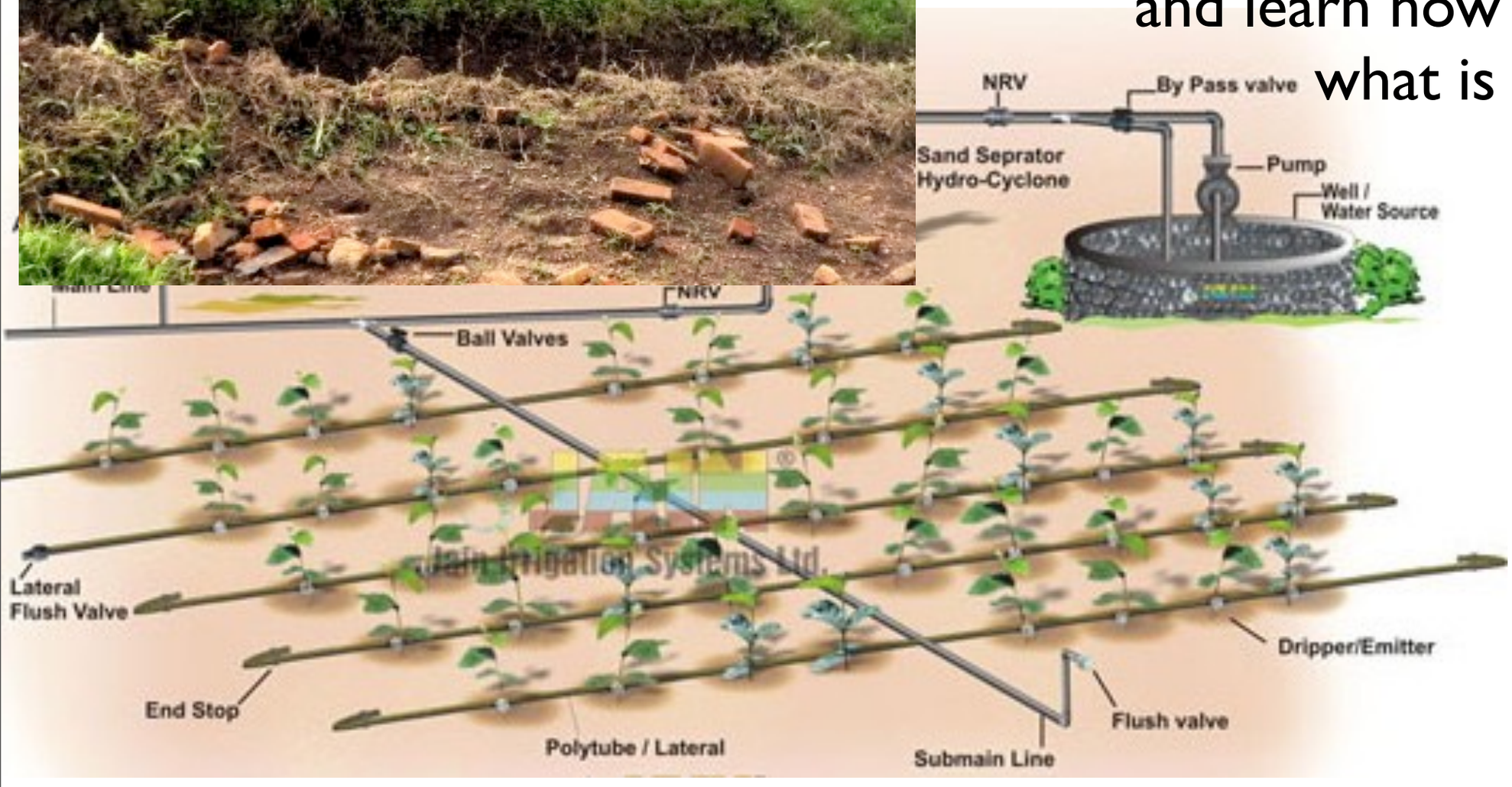
Leaky tubes are at end and arranged to be equal in length and organized like tree branches
Length is up to 140 meter
Each hole gives 2.3 liter / hour
20 meter long arm will then water by 115 liter / hour totally

All junctions and connectors are made in plastic and easy to use
Pipes are made in plastic and can be be cut with a wood saw

Sunnytek

Examples of drop irrigation

General rules
Keep all legs of pipes about equal in length (tree branches)
Control all by a valve manually and learn how much water is what is needed



At nights water is more available form wells and evaporation from earth is much less.

Sunnytek

Materials needed for installa

Feeder pipes and fittings
to connect leaky tube
to water supply

Leaky tube parts
for the system

Sunnytek

Water supply

Water supply and well with natural pressure as image from Gakwende shows. Here we can use night flow so day time use have no conflict about flow. Consumption is 90% less with drip watering

Solar pumps can be used to lift water from creeks or drilled wells. Here you get water when you have sun at daytime. Often a few meter in lift height is enough to reach the fields

Sunnytek

Typical case in Africa

Creeks are often in shallow canyons 1-4 meter lower than fields around.
Most creeks have water at dry season but it is heavy to lift it up at fields.
Solar pump combined with drop watering can give very good harvest over large fields. Drop water saves 90% of water consumption.

One small system with 300W panels gives 3000 Liter / hour at 10 meter lift and this is enough for very large fields during dry season
1 -2 liter per day direct at the root makes one system to give water for 4000-6000 M2 of fields just by sun

Sunnytek

Shadow by textile

Young plants can have hard times with strong sun
They needs partial shadows and diffuse light
Textiles made for this are preferable used

Thank you
Sunnytek Solar