

**BOB ENGELBRECHT**

CONSULTANCY LIMITED

## **FARMING WITH IRRIGATION**

Use of renewable resources

- Water
- Electricity energy

\* Multiple use of water e.g. Opuha Dam

Even the possibility to create or substitute for energy

## **FARMING WITH IRRIGATION**

Means:

- High output farming
- Not low cost farming
- Low cost farming usually results (medium/long term) in low profit farming

## SUMMARY

Irrigation farming will not –

1. Mean less work,
2. Provide a low cost farming system,
3. Mean less pressure on good financial management

Irrigation farming will –

1. Increase reliability of farm profits,
2. Allow more intensive (and more profitable) farming activities,
3. Provide more predictability and improved profitability, in the long term,
4. Enhance farm values,
5. Provide more satisfaction from farming,
6. Provide advantages for extensive farming areas surrounding irrigation farms (through the demand for surplus livestock, source of feed etc), and
7. Ensure the survival and further development of service industries in the district, by making farm production more reliable and constant, both on the input and output sides.

For the community as a whole, irrigation development will –

1. Increase wealth – for everyone,
2. Increase job opportunities,
3. Productively use the renewable resources of the district, that is, water and electricity,
4. Productively utilise the competitive advantages of the district,
5. Ensure the survival and further growth of service industries and vital facilities such as hospitals, schools, shops and recreational, and
6. Provide opportunities for conservation and enhancement of local resources.

Carried out, carefully, thoroughly, and efficiently, irrigation development will generally achieve better results than expected and, for the farmer with enthusiasm and commitment, will probably out perform any other on-farm investment choices he may have.

## **POINTS FOR IRRIGATION DEVELOPMENT**

- 1. Increased wealth – for everyone**
- 2. Increased job opportunities**
- 3. Flexibility, versatility and reliability of production**
- 4. Use of renewable natural resources – water and electricity**
- 5. Use of competitive advantages of district**
- 6. Complimentary benefits to adjacent dryland**
- 7. Ensure growth of service industries**
- 8. Conservation aspects**

## **POINTS AGAINST IRRIGATION DEVELOPMENT**

- 1. Water requirement – storage**
- 2. Cost of development – increased debt servicing and demands on management**
- 3. Over-production – under marketing**
- 4. Environmental/conservation concerns**
- 5. “I’m alright Jack” – attitude**

## **OTHER FACTORS TO CONSIDER**

- 1. Use of region's competitive advantages**
- 2. Economic viability of Region/Nation – economic viability of farmer irrigator**
- 3. Sharing the existing cake – or bigger cake to share**
- 4. We need discretionary income before we can enjoy recreation**
- 5. Central Government and Local Authorities should provide the lead**
- 6. Multiplier effects**
- 7. Multiple water use**
- 8. Cost of development – now more competition**
- 9. Practicality for individual farmer – more work, more skills - but more profit and progress**

## **TEN COMMANDMENTS FOR SUCCESS**

- 1. Be better than average – and better in a year's time**
- 2. Attention to detail**
- 3. Good “timing”**
- 4. Be well informed**
- 5. Focus on the important factors**
- 6. No such thing as a low cost farming system**
- 7. Use a conventional farm programme**
- 8. Farm programme and management – needs continuing reviewal**
- 9. Self-deception often the biggest stumbling block**
- 10. Scale and size of operation can help**

## **FACTORS TO CONSIDER IN IRRIGATION DESIGN**

- 1. Application rate**
- 2. Application depth**
- 3. Distribution uniformity**
- 4. Labour issues**
- 5. Operating pressure**
- 6. Energy requirement**
- 7. Capital investment**
- 8. Reliability and service**
- 9. Effective life**
- 10. Enterprises**
- 11. Damage to crop**
- 12. Watering irregular areas**
- 13. Affect by wind**
- 14. General acceptance**
- 15. Fencing**
- 16. Shifting**
- 17. Shelter**
- 18. Slope/contour**

## **ALTERNATIVE SPRINKLER IRRIGATION SYSTEMS**

**Each type of irrigation system has its trade-offs (pluses and minuses) compared with every other type.**

- 1. Hand shift, skid pans, end tow or angle tow**
- 2. Sideroll/power roll**
- 3. Hard hose reel and gun**
- 4. Soft hose travelling gun**
- 5. Fixed boom, soft hose**
- 6. Rotary boom, soft hose**
- 7. Linear move (lateral move) end fed, soft hose**
- 8. Fixed centre-pivot**
- 9. Towable centre-pivot**
- 10. K line, small impact sprinklers**
- 11. Long lateral, impact sprinklers**