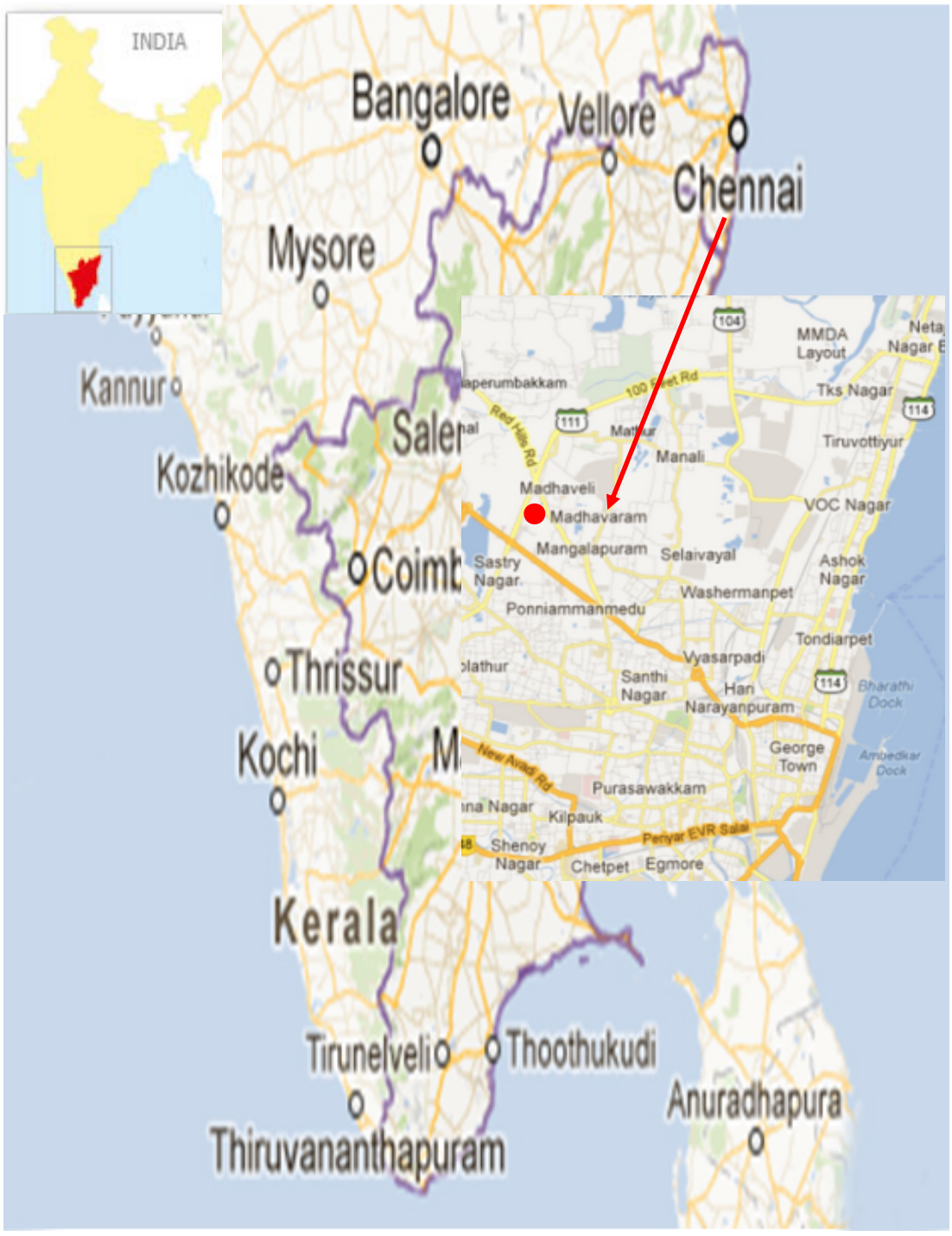

Plate.1 **Study of the map area and location of sampling station (Madhavaram, Chennai).**

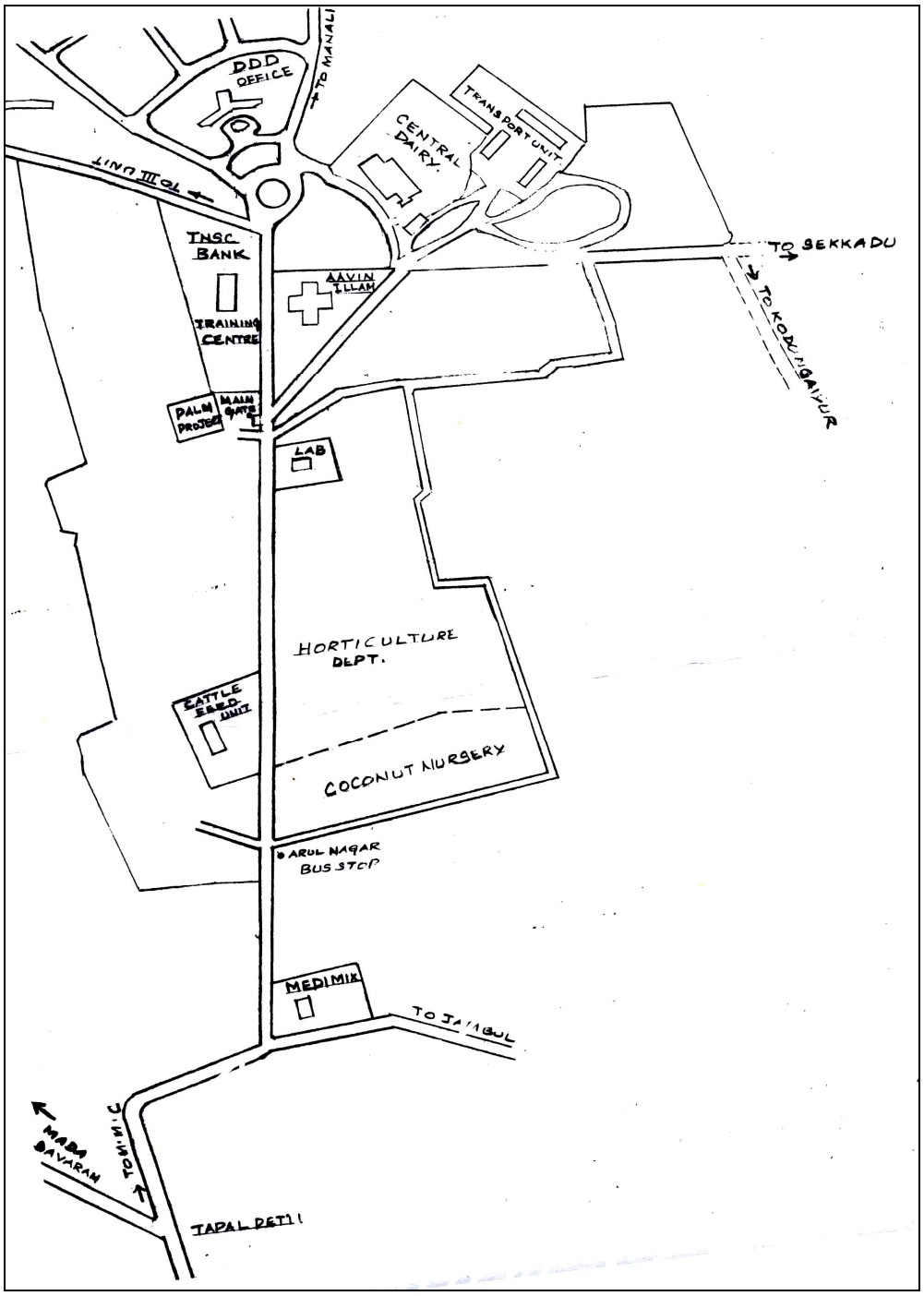

Plate.2 **Topo sketch of Madhavaram colony, Chennai. (Courtesy – Dairy industry)**

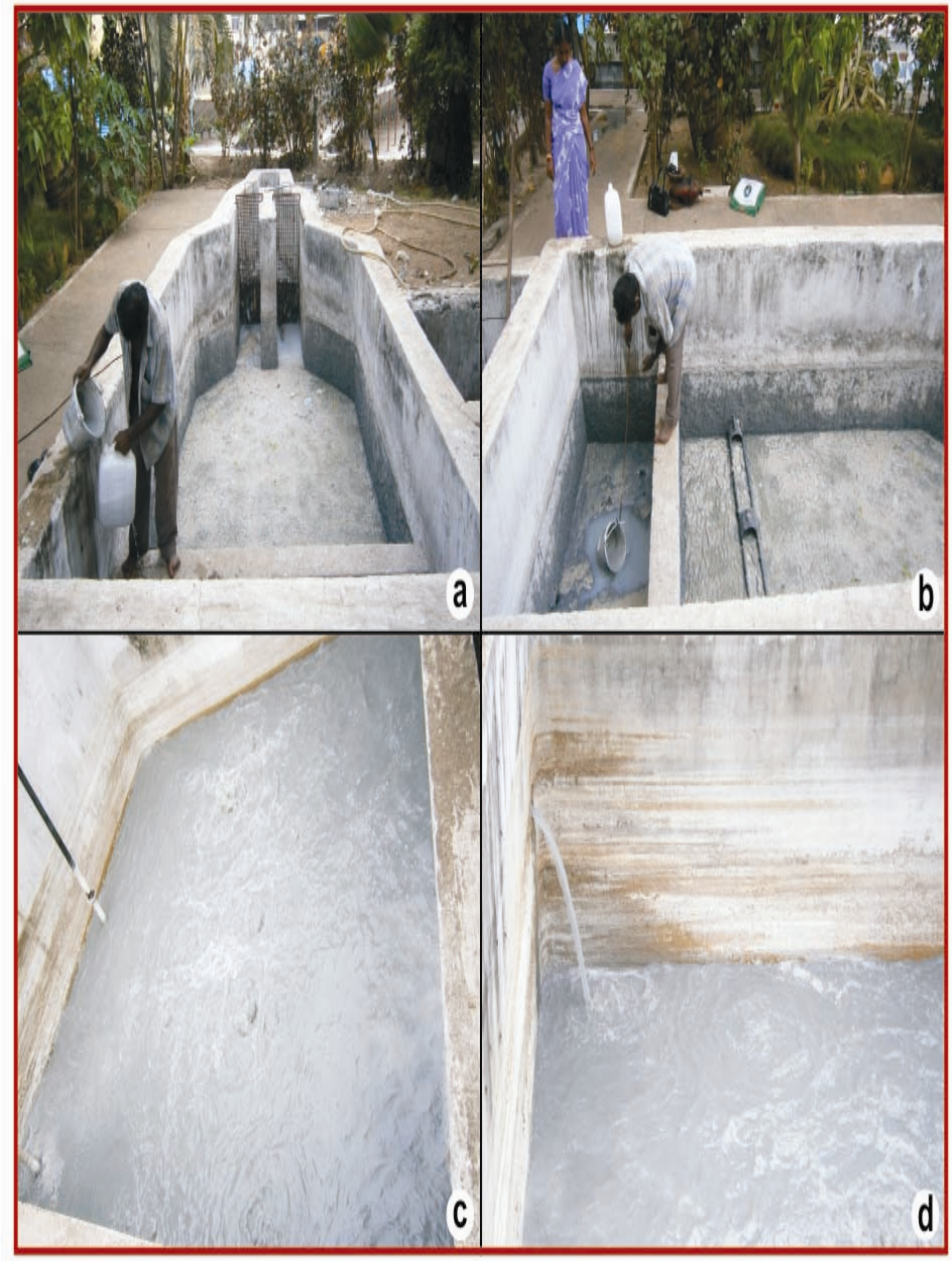

Plate.3 **a) Inlet of effluent from factory b) Settling tank-I c) DAF method d) Settling tank-II.**

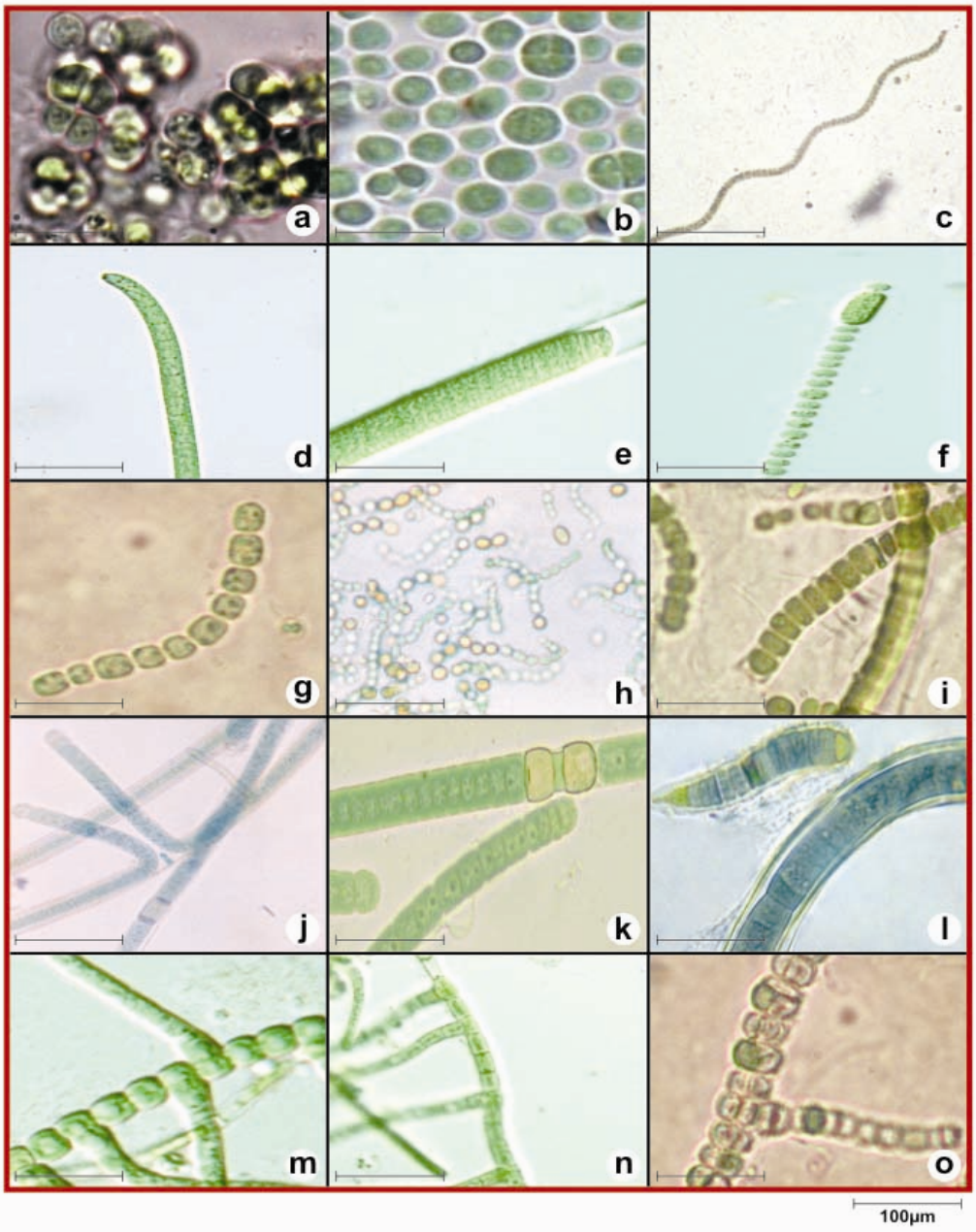

Plate.4 List of Cyanobacteria isolated from Dairy effluent and Cyanobacteria taken from Laboratory culture.

a) ***Chroococcus turgidus*** **b)** ***Chroococcidiopsis indica*** **c)** ***Spirulina platensis*** **d)** ***Oscillatoria animalis*** **e)** ***Phormidium ambiguum*** **f)** ***Cylindrospermum licheniforme*** **g)** ***Nostoc muscorum*** **h)** ***Anabaena variabilis*** **i)** ***Aulosira laxa*** **j)** ***Scytonema multiramosum*** **k)** ***Tolypothrix distorta*** **l)** ***Calothrix membranacea*** **m)** ***Hapalosiphon welwitschii*** **n)** ***Fischerella ambigue*** **o)** ***Stigonema turfaceum***

Plate.5 Cyanobacterial growth in Dairy effluent

a) C- Control 1) *Hapalosiphon welwitschii* 2) *Cylindrospermum licheniforme* 3) *Oscillatoria animalis* 4) *Phormidium ambiguum* 5) *Aulosira laxa*

b) C- Control 6) *Fischerella ambigue* 7) *Chroococcus turgidus* 8) *Tolypothrix distorta* 9) *Anabaena variabilis* 10) *Nostoc muscorum*

c) C- Control 11) *Chroococcidiopsis indica* 12) *Spirulina platensis* 13) *Scytonema multiramosum* 14) *Calothrix membranacea* 15) *Stigonema turfaceum* 16) Algal consortium.

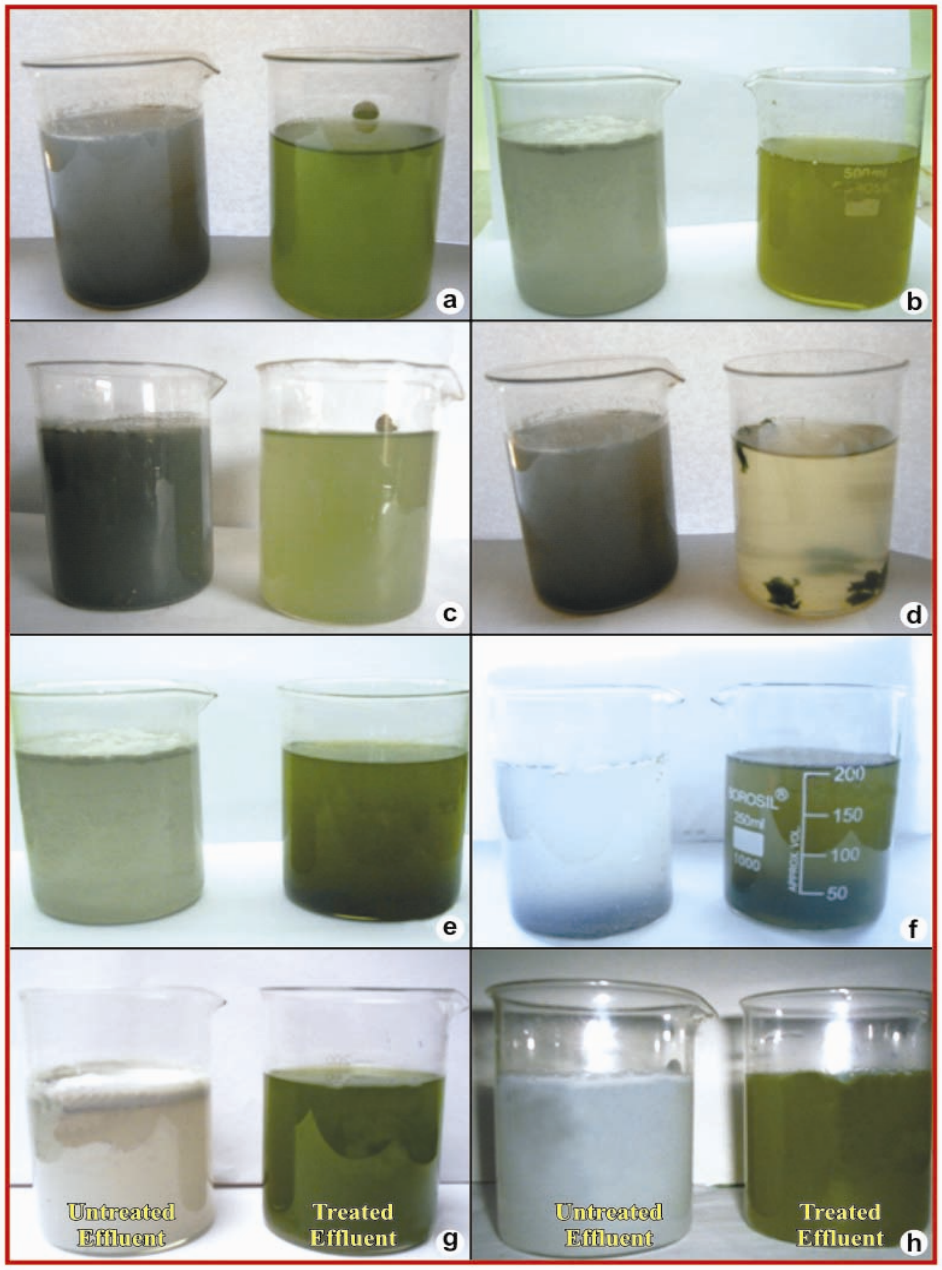

Plate.6 Dairy effluent treated with Cyanobacteria compared with control

a) ***Chroococcus turgidus*** **b)** ***Chroococcidiopsis indica*** **c)** ***Spirulina platensis*** **d)** ***Oscillatoria animalis*** **e)** ***Phormidium ambiguum*** **f)** ***Cylindrospermum licheniforme*** **g)** ***Nostoc muscorum*** **h)** ***Anabaena variabilis***

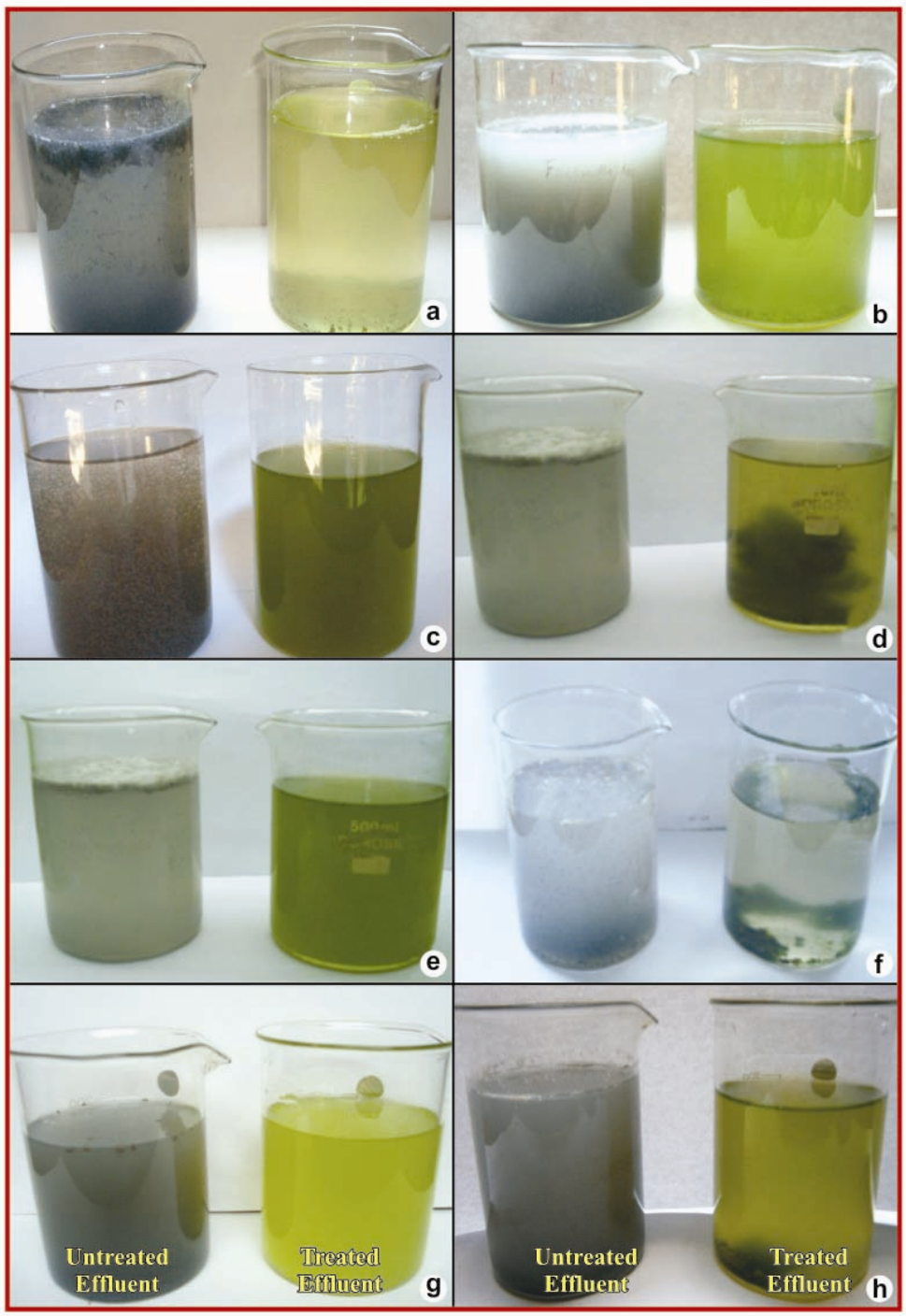

Plate.7 Dairy effluent treated with Cyanobacteria compared with control

a) *Aulosira laxa* *b*) *Scytonema multiramosum* *c*) *Tolypothrix distorta* d) *Calothrix membranacea* *e*) *Hapalosiphon welwistchii* *f*) *Fischerella ambigue* g) *Stigonema turfaceum* *h*) Algal consortium

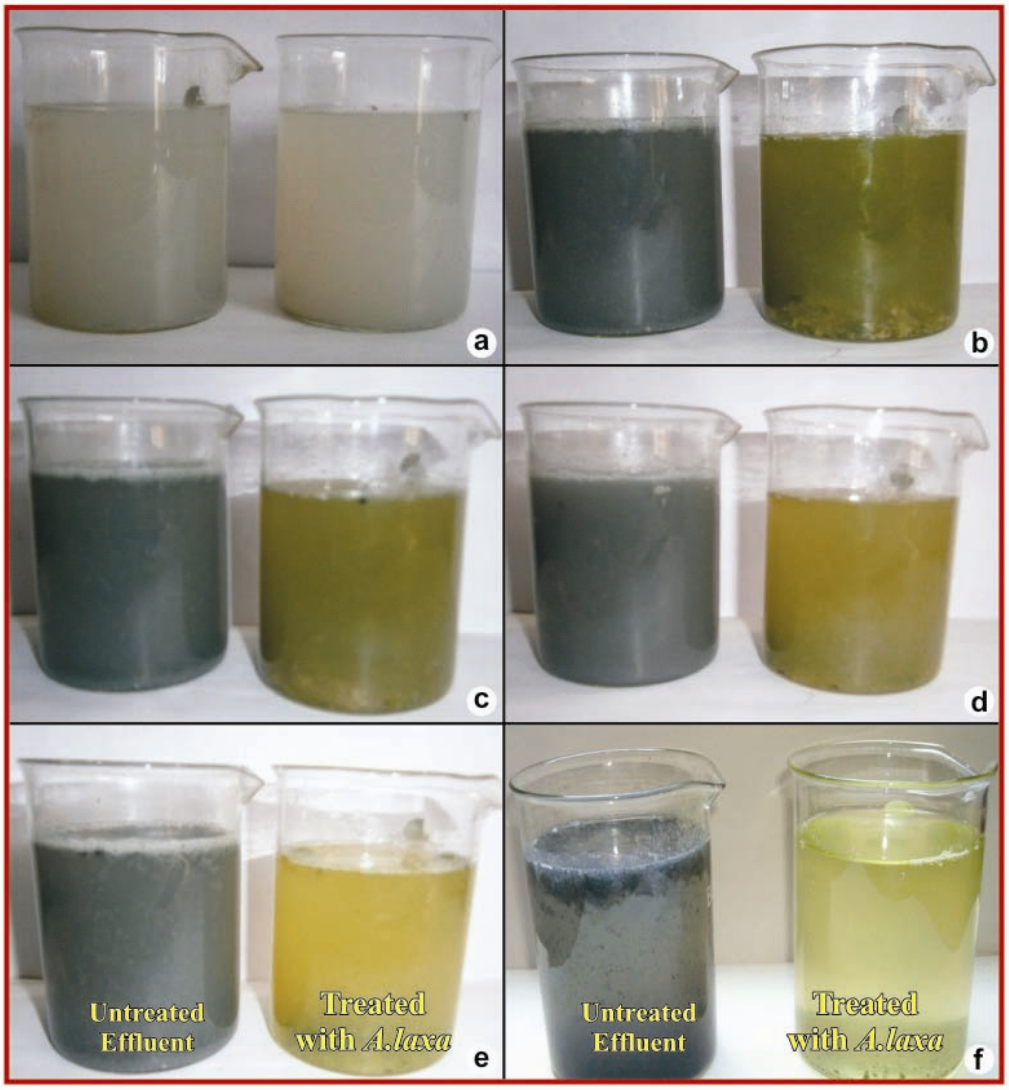

Plate.8 **Dairy effluent treated with *Aulosira laxa* compared with control.**

a) Control b) Day 3 c) Day 6 d) Day 9 e) Day 12 f) Day 15

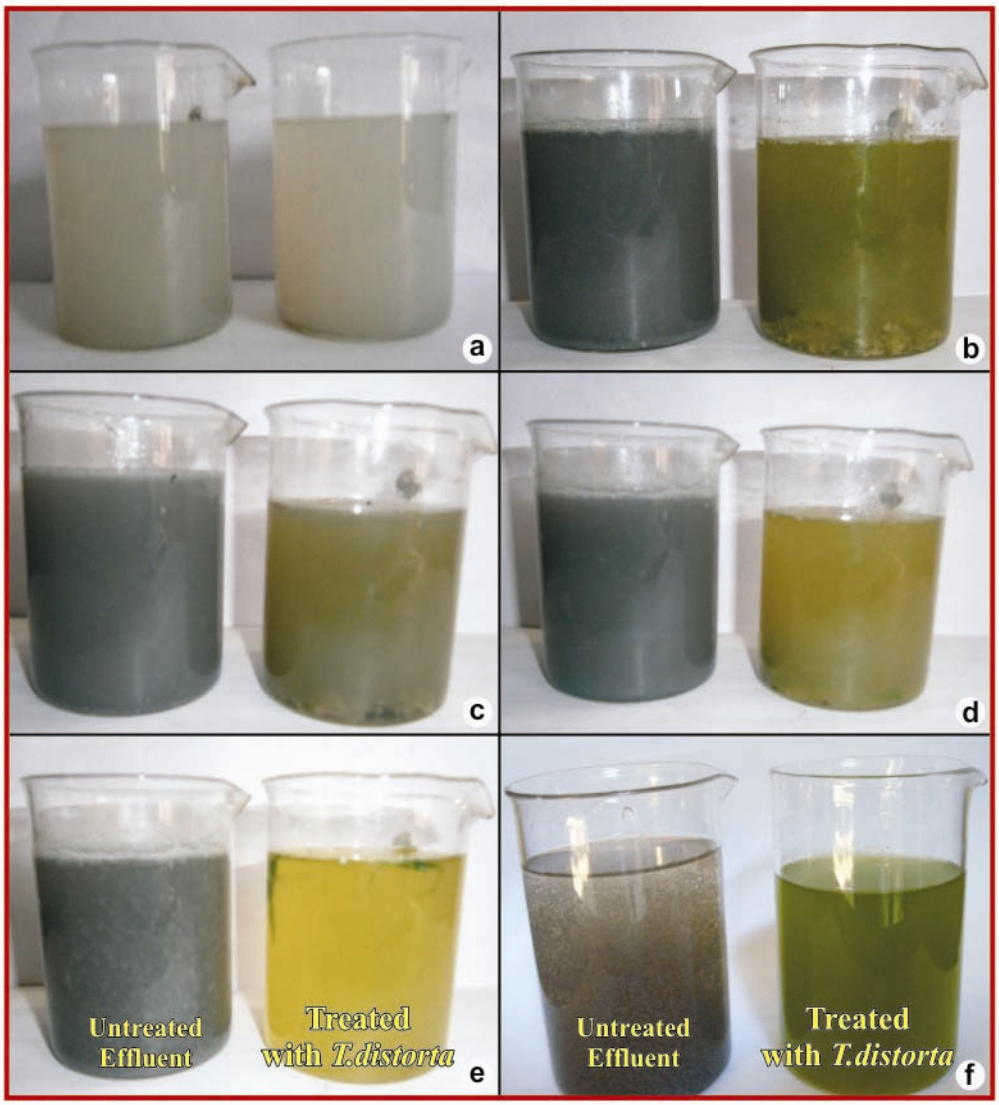

Plate.9 **Dairy effluent treated with *Tolypothrix distorta* compared with control.**

a) Control b) Day 3 c) Day 6 d) Day 9 e) Day 12 f) Day 15

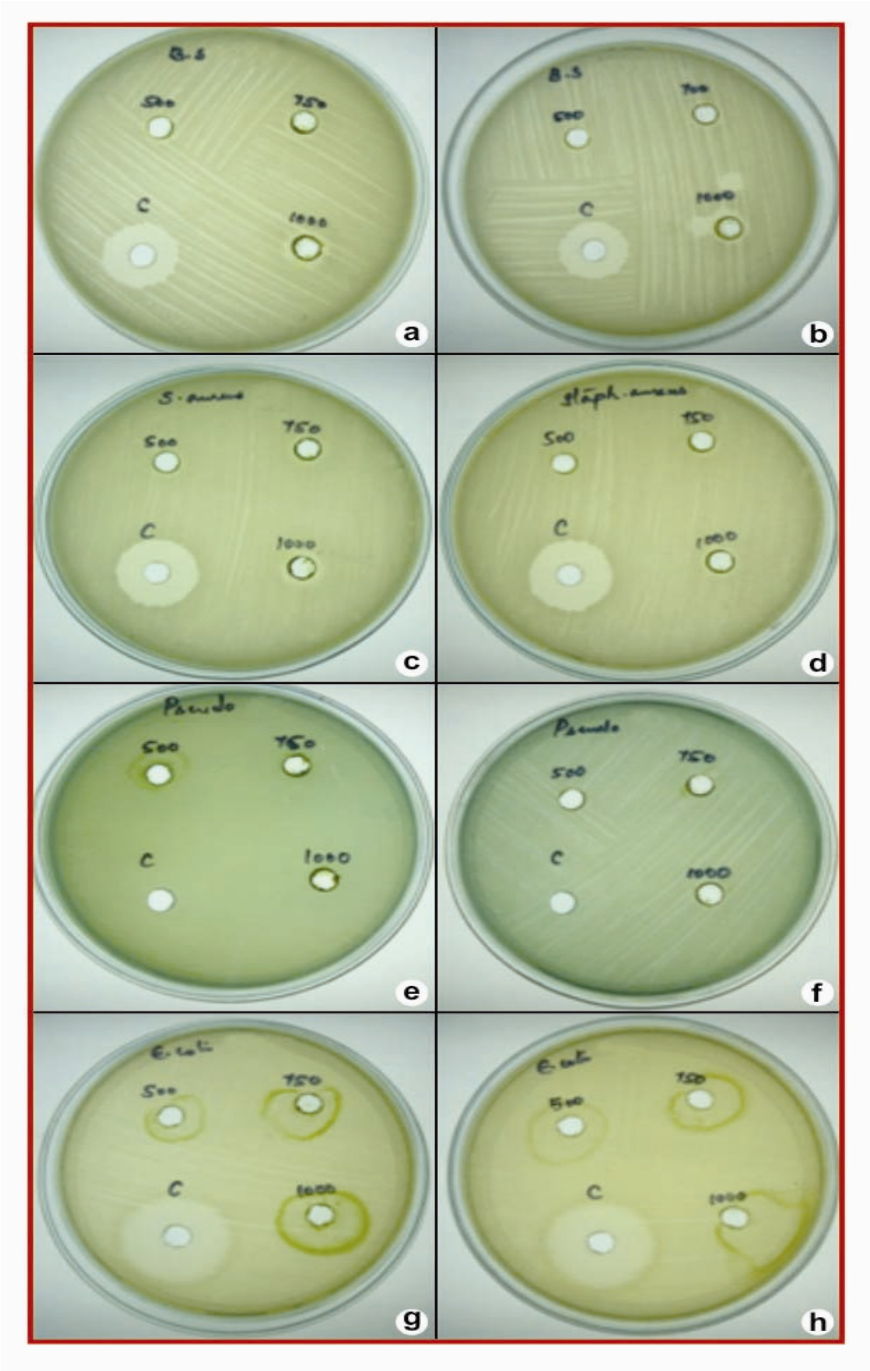

Plate.10 Antibacterial activity of cultured *A. laxa* and effluent treated *A. laxa*

Cultured *A.laxa* – a) *B.subtilis* b) *S. aureus* c) *P. aeruginosa* d) *E.coli*
Treated *A. laxa* – *e*) *B.subtilis* f) *S. aureus* g) *P. aeruginosa* h) *E.coli*

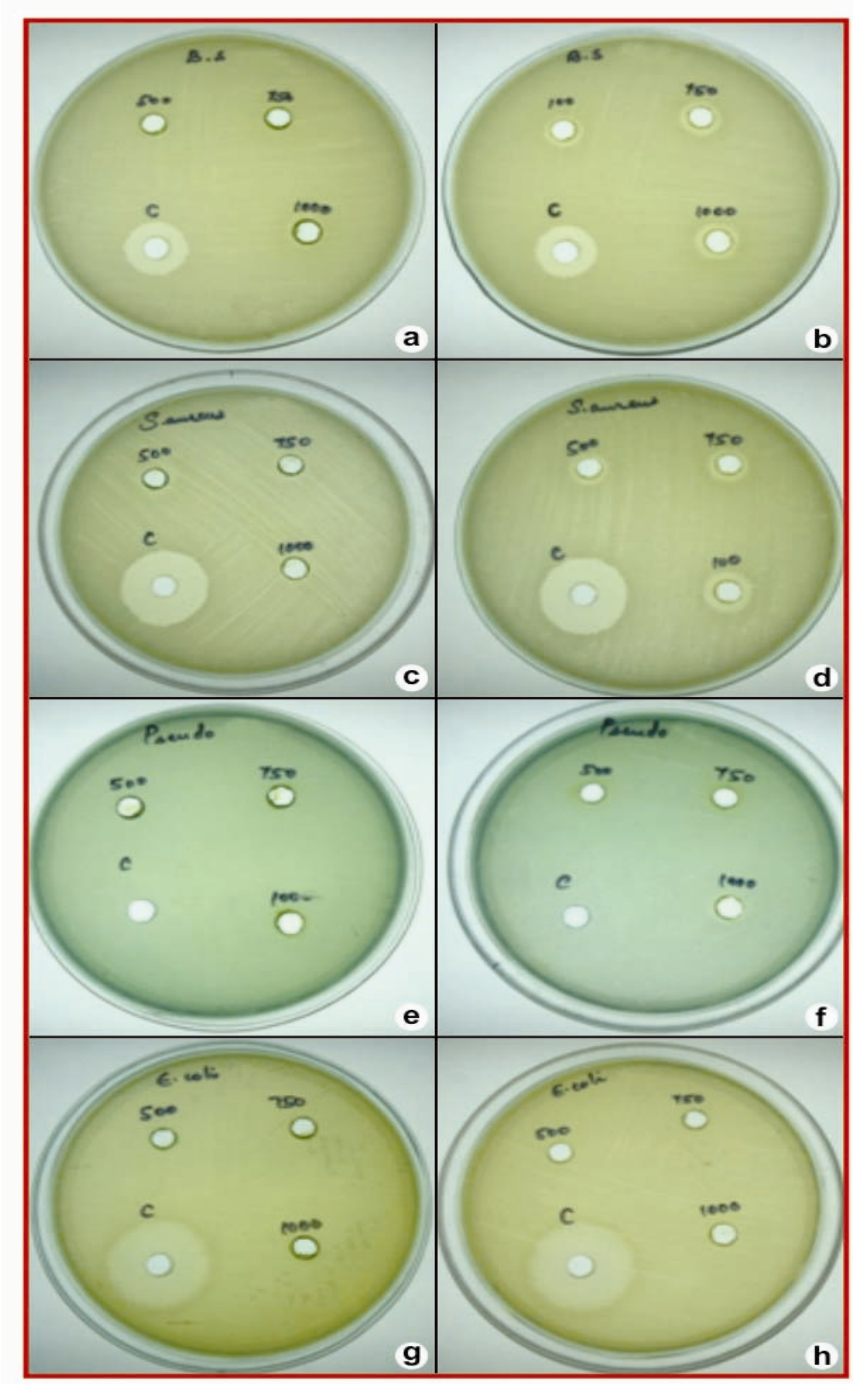

Plate.11 **Antibacterial activity of cultured *T. distorta* and effluent treated *T. distorta***

Cultured *T. distorta* – a) *B.subtilis* b) *S. aureus* c) *P. aeruginosa* d) *E.coli*
Treated *T. distorta* – *e*) *B.subtilis* f) *S. aureus* g) *P. aeruginosa* h) *E.coli*

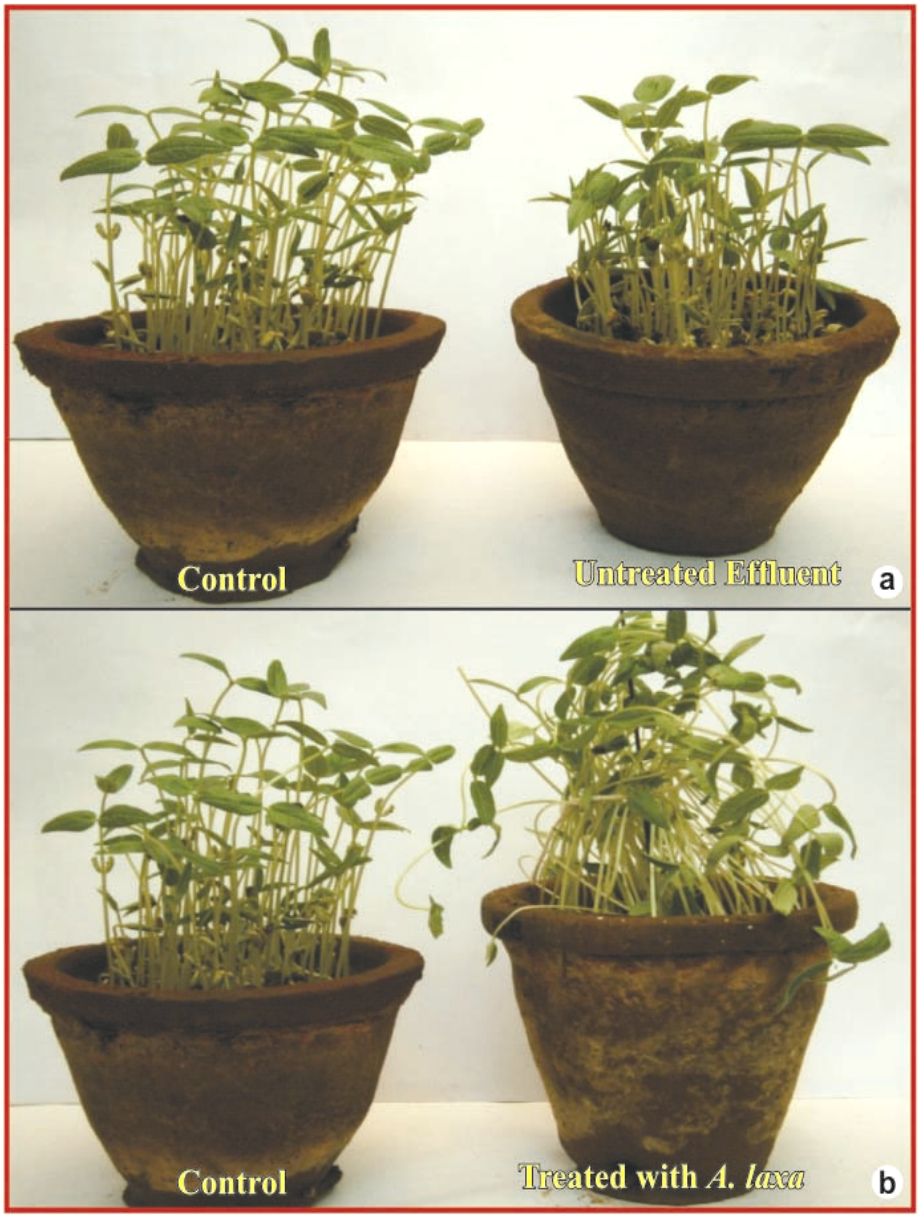

Plate.12 Seed germination and seedling growth of black gram

a) Untreated effluent b) treated effluent with *A. laxa*

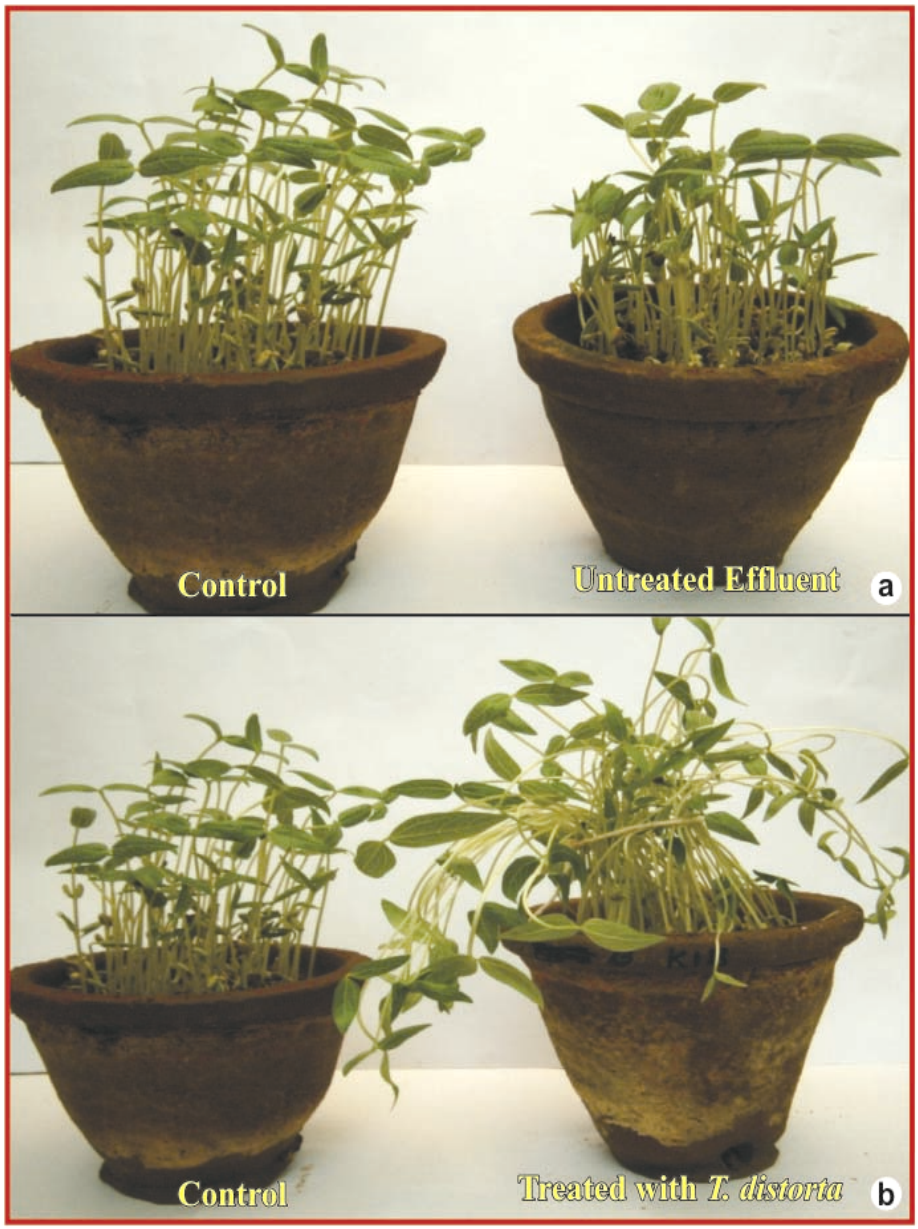

Plate.13 Seed germination and seedling growth of black gram

a) Untreated effluent b) treated effluent with *T.distorta*

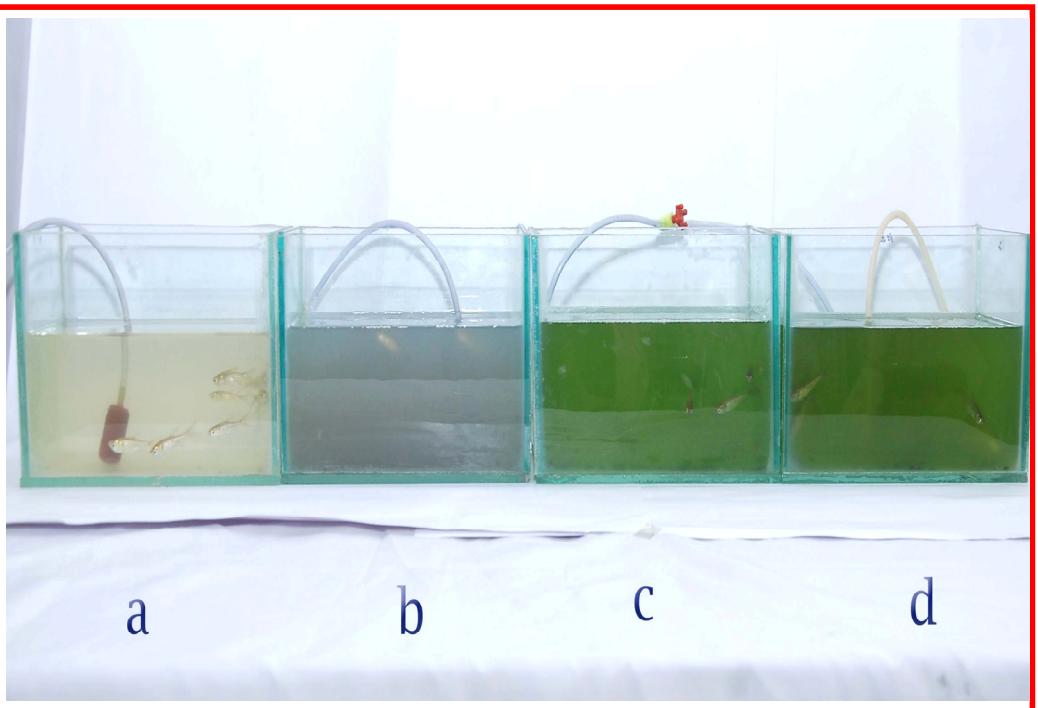

Plate.14 **Experimental set up in the laboratory for toxicity study of fish treated with Dairy effluent.**

a) Control b) untreated effluent c) treated effluent with *A. laxa* d) treated effluent with *T. distorta*.