

**HW Problem 5:****SOLUTION****2005**

Dusseau's Folly has a population of 95000 .  
 Each individual in Dusseau's Folly that recycles creates 1.5 units of  
 collective good, without jointness of supply, at an individual cost of 0.7 units.

- a. Prepare a Table similar to the one we developed in class that shows the benefits received by free riders and recyclers if 0, 5, 10, ... 100 % of Dusseau's Folly recycles.  
 The column headings should be: Total % recycling; Your net benefit if you are a free rider; and your net benefit if you are one of the recyclers.

Total Percent Recycling*	Your net benefit if you are	
	a Free Rider	a Recyclers
0	0.00	-0.70
5	0.08	-0.62
10	0.15	-0.55
15	0.23	-0.47
20	0.30	-0.40
25	0.38	-0.32
30	0.45	-0.25
35	0.53	-0.17
40	0.60	-0.10
45	0.68	-0.02
50	0.75	0.05
55	0.83	0.13
60	0.90	0.20
65	0.98	0.28
70	1.05	0.35
75	1.13	0.43
80	1.20	0.50
85	1.28	0.58
90	1.35	0.65
95	1.43	0.73
100	1.50	0.80

\*If you are a free rider

b. Prepare another Table using the same cost data; but this time assume the collective public good produces only 0.000015 units of collective good, but with jointness of supply.

Total Percent Recycling*	Your net benefit if you are	
	a Free Rider	a Recyclers
0	0.00	-0.70
5	0.07	-0.63
10	0.14	-0.56
15	0.21	-0.49
20	0.29	-0.41
25	0.36	-0.34
30	0.43	-0.27
35	0.50	-0.20
40	0.57	-0.13
45	0.64	-0.06
50	0.71	0.01
55	0.78	0.08
60	0.86	0.16
65	0.93	0.23
70	1.00	0.30
75	1.07	0.37
80	1.14	0.44
85	1.21	0.51
90	1.28	0.58
95	1.35	0.65
100	1.43	0.73

\*If you are a free rider

For the situations described in parts a and b, determine the participation rate that would trigger

c. individual basis (participation must increase personal benefit)

Part a: will never recycle

Part b: will never recycle

d. group basis (participation must increase benefit to group without creating personal loss)

Part a: will recycle at > 50 %

Part b: will recycle at > 50 %

e. altruistic basis (participation must create benefit for some group)

Part a: will always recycle

Part b: will always recycle

f. How does jointness of supply influence participation for each type of assessment rationale?

Doesn't effect individual assessment.

Can affect group and altruistic assessments, as collective good "goes farther".