

# Economics Worksheets

**MULTIPLIER EFFECTS OF PROJECT CONSTRUCTION AND OPERATION ON EMPLOYMENT AND EARNINGS - PHASE 1**

<b>Construction Impacts - Phase 1</b>								
<b>Variable</b>	<b>Multiplier Used</b>	<b>Multiplier</b>	<b>Jobs/Expenditures</b>	<b>Effect</b>	<b>Exp - 1995\$</b>	<b>Exp - 1999\$</b>	<b>Eff-1995\$</b>	<b>Eff-1999\$</b>
Employment - Jobs	Direct-Effect Multiplier on employment for construction	1.9297	168	324				
			819	1580				
Earnings and Income - Millions\$	Final demand multiplier for earnings in construction	0.6247	307.66	192.20	281.80	307.66	176.04	192.20
			359.54	224.60	329.32	359.54	205.73	224.60

<b>Operation Impacts - Phase 1</b>								
<b>Variable</b>	<b>Multiplier Used</b>	<b>Multiplier</b>	<b>Jobs/Expenditures</b>	<b>Effect</b>	<b>Exp - 1995\$</b>	<b>Exp - 1999\$</b>	<b>Eff-1995\$</b>	<b>Eff-1999\$</b>
Employment	Final demand employment multiplier in water supply and sewerage systems	17.2	20.85	328.48	19.10	20.85		
			21.35	336.36	19.56	21.35		
Earnings and Income - Millions\$	Final demand multiplier for earnings in water supply and sewerage systems	0.491	20.85	10.24	19.10	20.85	9.38	10.24
			21.35	10.48	19.56	21.35	9.60	10.48

**MULTIPLIER EFFECTS OF AGRICULTURAL PRODUCTION ON EMPLOYMENT AND EARNINGS - PHASES 1, 2 and 3  
ALTERNATIVES A,B,C AND D**

<b>PHASE 1 - Agricultural Effects Alts. A,B,C, and D</b>							
<b>Variable</b>	<b>Multiplier Used</b>	<b>Expenditures Multiplier (\$ Millions)</b>	<b>Effect</b>	<b>Exp - 1995\$</b>	<b>Exp - 1999\$</b>	<b>Eff-1995\$</b>	<b>Eff-1999\$</b>
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment	42.7	-8.55	-334.40 Jobs	-7.83	-8.55	
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment in the farm industry	33.7	-8.55	-263.92 Jobs	-7.83	-8.55	
Earnings and Income	Final demand multiplier in farm products and agricultural, forestry, and fishing services for earnings	0.5328	-8.55	-4.56	-7.83	-8.55	-4.17 -4.56

**PHASE 2 - Agricultural Effects Alts. A,B,C, and D**

Variable	Multiplier Used	Expenditures		Effect	Exp - 1995\$	Exp - 1999\$	Eff-1995\$	Eff-1999\$
		Multiplier	(\$ Millions)					
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment	42.7	-8.04	-314.46 Jobs	-7.36	-8.04		
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment in the farm industry	33.7	-8.04	-248.18 Jobs	-7.36	-8.04		
Earnings and Income	Final demand multiplier in farm products and agricultural, forestry, and fishing services for earnings	0.5328	-8.04	-3.59	-7.36	-8.04	-3.92	-3.59

**PHASE 3 - Agricultural Effects Alts. A,B,C, and D**

Variable	Multiplier Used	Expenditures		Effect	Exp - 1995\$	Exp - 1999\$	Eff-1995\$	Eff-1999\$
		Multiplier	(\$ Millions)					
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment	42.7	-3.63	-141.97 Jobs	-3.32	-3.63		
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment	33.7	-3.63	-112.05 Jobs	-3.32	-3.63		
Earnings and Income	Final demand multiplier in farm products and agricultural, forestry, and fishing services for earnings	0.5328	-3.63	-2.11	-3.32	-3.63	-1.93	-2.11

**MULTIPLIER EFFECTS OF AGRICULTURAL PRODUCTION ON EMPLOYMENT AND EARNINGS - PHASES 1, 2 and 3  
ALTERNATIVE E**

<b>PHASE 1 - Agricultural Effects Alt. E</b>								
<b>Variable</b>	<b>Multiplier Used</b>	<b>Multiplier</b>	<b>Expenditures (\$ Millions)</b>	<b>Effect</b>	<b>Exp - 1995\$</b>	<b>Exp - 1999\$</b>	<b>Eff-1995\$</b>	<b>Eff-1999\$</b>
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment	42.7	-17.89	-699.71 Jobs	-16.39	-17.89		
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment in farm industry	33.7	-17.89	-552.23 Jobs	-16.39	-17.89		
Earnings and Income	Final demand multiplier in farm products and agricultural, forestry, and fishing services for earnings	0.5328	-17.89	-9.53	-16.39	-17.89	-8.73	-9.53

**PHASE 2 - Agricultural Effects Alt. E**

Variable	Multiplier Used	Expenditures		Effect	Exp - 1995\$	Exp - 1999\$	Eff-1995\$	Eff-1999\$
		Multiplier	(\$ Millions)					
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment	42.7	-17.38	-679.76 Jobs	-15.92	-17.38		
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment in the farm industry	33.7	-17.38	-536.48 Jobs	-15.92	-17.38		
Earnings and Income	Final demand multiplier in farm products and agricultural, forestry, and fishing services for earnings	0.5328	-17.38	-7.77	-15.92	-17.38	-8.48	-7.77

**PHASE 3 - Agricultural Effects Alt. E**

Variable	Multiplier Used	Expenditures		Effect	Exp - 1995\$	Exp - 1999\$	Eff-1995\$	Eff-1999\$
		Multiplier	(\$ Millions)					
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment	42.7	-3.63	-141.97 Jobs	-3.32	-3.63		
Employment	Final demand multiplier in farm products and agricultural, forestry, and fishing services for employment in the farm industry	33.7	-3.63	-112.05 Jobs	-3.32	-3.63		
Earnings and Income	Final demand multiplier in farm products and agricultural, forestry, and fishing services for earnings	0.5328	-3.63	-2.11	-3.32	-3.63	-1.93	-2.11

**CONSUMER PRICE INDEX - 1995 AND 1999**

1995 CPI 151.5  
1999 CPI 165.4

1995\$ to 1 1.091749  
1999\$ to 1 0.915961

**Harvested Cropland El Paso County (EP Irrigation District #1)  
1998  
(Acres)**

<b>Crop</b>	<b>El Paso</b>
Cereals	3,454
Forage Crops	7,098
Miscellaneous Field Crops	28,124
Vegetables	2,314
Seeds	0
Fruits	1
Nuts	8,565
Family Gardens and Orchards	162
Less Multiple Cropped	-3,016
<b>Total</b>	<b>46,702</b>

Source: USBR 1998a.

**EI Paso County (EP Irrigation District #1)**

**Market Value of Agricultural Products Sold - 1998  
(\$ Thousands)**

<b>Crop Category</b>	<b>EI Paso</b>
Cereals	1381.6
Forage Crops	4469.9
Miscellaneous Field Crops	17368.6
Vegetables	6977.2
Seeds	0
Fruits	3.6
Nuts	5996
Family Gardens and Orchards	189
Less Multiple Cropped	-1625
<b>Total</b>	<b>34760</b>

Source: USBR 1998a.

**Estimated Value of Production by Acre  
(\$ Thousands)**

<b>Crop Category</b>	<b>Total Mkt Value</b>	<b>Total Acres</b>	<b>Value by Acre</b>
Cereals	1381.6	3,454	0.3999
Forage Crops	4469.9	7,098	0.6297
Miscellaneous Field Crops	17368.6	28,124	0.6176
Vegetables	6977.2	2,314	3.0152
Seeds	0	0	0.0000
Fruits	3.6	1	3.6000
Nuts	5995.5	8,565	0.7000
Family Gardens and Orchards	189.4	162	1.1688
Less Multiple Cropped	1625.4	-3,016	0.5389
<b>Total</b>	<b>34760.3</b>	<b>46,702</b>	<b>0.7443</b>

Source: USBR 1998a.

**Estimated Acreage Reductions - El Paso County, Phase 1**

**ALTERNATIVES A,B,C AND D**

<b>Crop</b>	<b>El Paso County</b>	<b>Acres Converted</b>	
Cereals	0		
Forage Crops	1525	El Paso	6100
Miscellaneous Field Crops	1525		
Vegetables	0		
Seeds	0		
Fruits	0		
Nuts	0		
Family Gardens and Orchards	0		
Less Multiple Cropped	0		
<b>Total</b>	<b>3050</b>		

  

		<b>Reductions</b>	
		Small Lots	50%
		Forage	25%
		Annual (Misc. field crops)	25%
		Orchards (Nuts)	0%

**ALTERNATIVE E**

<b>Crop</b>	<b>El Paso County</b>	<b>Acres Converted</b>		
Cereals	0	Total	8600	
Forage Crops	1525	Small Lots, forage, annual	6100	
Miscellaneous Field Crops	1525	Orchards (Nuts)	2500	
Vegetables	0			
Seeds	0			
Fruits	0			
Nuts	2500			
Family Gardens and Orchards	0			
Less Multiple Cropped	0			
<b>Total</b>	<b>5550</b>			

  

		<b>Reductions</b>		<b>Acres</b>
		Small Lots	50.00%	6100
		Forage	25.00%	
		Annual (Misc. field crops)	25.00%	
		Orchards (Nuts)	100.00%	2500

**Estimated Acreage Reductions - El Paso County, Phase 2**

**ALTERNATIVES A,B,C AND D**

<b>Crop</b>	<b>El Paso County</b>	<b>Acres Converted</b>	
Cereals	0		
Forage Crops	4122	El Paso	8244
Miscellaneous Field Crops	4122		
Vegetables	0		
Seeds	0	Small Lots	0%
Fruits	0	Forage	50%
Nuts	0	Annual (Misc. field crops)	50%
Family Gardens and Orchards	0	Orchards	0%
Less Multiple Cropped	0		
<b>Total</b>	<b>8244</b>		

**ALTERNATIVE E**

<b>Crop</b>	<b>El Paso County</b>	<b>Acres Converted</b>		
Cereals	0	Total	10744	
Forage Crops	4122	Small Lots, forage, annual	8244	
Miscellaneous Field Crops	4122	Orchards (Nuts)	2500	
Vegetables	0			
Seeds	0	<b>Reductions</b>		<b>Acres</b>
Fruits	0	Small Lots	0.00%	8244
Nuts	2500	Forage	50.00%	
Family Gardens and Orchards	0	Annual (Misc. field crops)	50.00%	
Less Multiple Cropped	0			
<b>Total</b>	<b>10744</b>	Orchards	100.00%	2500

**Estimated Acreage Reductions - El Paso County, Phase 3**

**ALTERNATIVES A,B,C AND D**

<b>Crop</b>	<b>El Paso County</b>	<b>Acres Converted</b>	
Cereals	0		
Forage Crops	0	El Paso	0
Miscellaneous Field Crops	0		
Vegetables	0		
Seeds	0		
Fruits	0		
Nuts	0		
Family Gardens and Orchards	0		
Less Multiple Cropped	0		
<b>Total</b>	<b>0</b>		

  

		<b>Reductions</b>	
		Small Lots	0.00%
		Forage	0.00%
		Annual (Misc. field crops)	0.00%
		Orchards	0.00%

**ALTERNATIVE E**

<b>Crop</b>	<b>El Paso County</b>	<b>Acres Converted</b>	
Cereals	0	Total	0
Forage Crops	0		
Miscellaneous Field Crops	0		
Vegetables	0		
Seeds	0	Small Lots	0.00%
Fruits	0	Forage	0.00%
Nuts	0	Annual (Misc. field crops)	0.00%
Family Gardens and Orchards	0	Orchards	0.00%
Less Multiple Cropped	0		
<b>Total</b>	<b>0</b>		

**Market Value Reductions - El Paso County**

**ALTERNATIVES A,B,C, AND D  
(\$ Thousands)**

<b>Crop Category</b>	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>
Cereals	0.00	0.00	0.00
Forage Crops	960.29	2595.62	0.00
Miscellaneous Field Crops	941.84	2545.75	0.00
Vegetables	0.00	0.00	0.00
Seeds	0.00	0.00	0.00
Fruits	0.00	0.00	0.00
Nuts	0.00	0.00	0.00
Family Gardens and Orchards	0.00	0.00	0.00
Less Multiple Cropped	0.00	0.00	0.00
<b>Total</b>	<b>1902.13</b>	<b>5141.37</b>	<b>0.00</b>

**ALTERNATIVE E  
(\$ Thousands)**

<b>Crop Category</b>	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>
Cereals	0.00	0.00	0.00
Forage Crops	960.29	2595.62	0.00
Miscellaneous Field Crops	941.84	2545.75	0.00
Vegetables	0.00	0.00	0.00
Seeds	0.00	0.00	0.00
Fruits	0.00	0.00	0.00
Nuts	1750.00	1750.00	0.00
Family Gardens and Orchards	0.00	0.00	0.00
Less Multiple Cropped	0.00	0.00	0.00
<b>Total</b>	<b>3652.13</b>	<b>6891.37</b>	<b>0.00</b>

**EPWU ESTIMATES - Acreage Reductions for Texas (El Paso County)  
Alternatives A,B,C, and D**

	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>
Land Conversion (acres)	6100	8244	0
<b>Alternative E</b>			
	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>
Land Conversion (acres)	8600	10744	0

**New Mexico**  
**Irrigated Harvested Cropland 1998 (Acres)**  
**Elephant Butte Irrigation District, Mesilla Valley and Rincon**

<b>Crop</b>	<b>Mesilla Valley<sup>1</sup></b>	<b>Rincon<sup>2</sup></b>	<b>Total</b>
Cereals	3,610	1,614	5,224
Forage Crops	19,167	7,161	26,328
Miscellaneous Field Crops	13,576	2,001	15,577
Vegetables	8,435	4,793	13,228
Fruits	53	0	53
Nuts	18,060	1,620	19,680
Family Gardens and orchards	205	6	211
Nursery	303	0	303
Total All Crops	63,409	17,195	80,604
Less Multiple Cropped	<b>4,313</b>	<b>577</b>	<b>4,890</b>
Total	59,096	16,618	75,714

<sup>1</sup>Mesilla Valley includes portion of Dona Ana Count within the EBID Rio Grande Project.

<sup>2</sup>Rincon includes portions of Dona Ana and Sierra Counties within the EBID Rio Grande Project.

Source: USBR 1998b and 1998c.

**New Mexico**  
**Market Value of Agricultural Products Sold - 1998**  
**(\$ Thousands)**

<b>Crop Category</b>	<b>Mesilla Valley<sup>1</sup></b>	<b>Rincon<sup>2</sup></b>	<b>Total</b>
Cereals	600	445	1,045
Forage Crops	12,294	5,132	17,426
Miscellaneous Field Crops	10,166	1,450	11,616
Vegetables	31,295	16,583	47,878
Fruits	84	0	84
Nuts	41,125	3,689	44,814
Other	2,401	0	2,401
Less Multiple Cropped	<b>7,637</b>	<b>1,023</b>	<b>8,660</b>
<b>Total Sales</b>	<b>90,328</b>	<b>26,276</b>	<b>116,604</b>

<sup>1</sup>Mesilla Valley includes portion of Dona Ana Count within the EBID Rio Grande Project.

<sup>2</sup>Rincon includes portions of Dona Ana and Sierra Counties within the EBID Rio Grande Project.

Source: USBR 1998b, 1998c, EBID 2000.

**Estimated Value of Production by Acre**  
**(\$ Thousands)**

<b>Crop Category</b>	<b>Total Mkt Value</b>	<b>Total Acres</b>	<b>Value by Acre</b>
Cereals	1,045	5,224	0.20
Forage Crops	17,426	26,328	0.66
Miscellaneous Field Crops	11,616	15,577	0.75
Vegetables	47,878	13,228	3.62
Fruits	84	53	1.58
Nuts	44,814	19,680	2.28
Other	2,401	514	4.67
Less Multiple Cropped	<b>8,660</b>	<b>4,890</b>	<b>1.77</b>
<b>Total Sales</b>	<b>116,604</b>	<b>75,714</b>	<b>1.54</b>

**Estimated Acreage Reductions - New Mexico, Phase 1**

**ALTERNATIVES A,B,C AND D**

<b>Crop</b>	<b>New Mexico</b>		<b>Acres Converted</b>
Cereals	0		
Forage Crops	4724	Total	9447
Miscellaneous Field Crops	4724		
Vegetables	0		
Fruits	0		
Nuts	0		
Other	0		
Total	9447		
		<b>Reductions</b>	
		Small Lots	0%
		Forage	50%
		Annual (Misc. field crops)	50%
		Orchards (Nuts)	0%

**ALTERNATIVE E**

<b>Crop Category</b>	<b>New Mexico</b>		<b>Acres Converted</b>	
Cereals	0	Total	12780	
Forage Crops	4724	Small lots, forage, annual	9447	
Miscellaneous Field Crops	4724	Orchards (Nuts)	3333	
Vegetables	0			
Fruits	0			
Nuts	3333			
Other	0			
Total	12780			
		<b>Reductions</b>		<b>Acres</b>
		Small Lots	0.00%	9447
		Forage	50.00%	
		Annual (Misc. field crops)	50.00%	
		Orchards (Nuts)	100.00%	3333

**Estimated Acreage Reductions - New Mexico, Phase 2**

**ALTERNATIVES A,B,C AND D**

<b>Crop</b>	<b>New Mexico</b>		<b>Acres Converted</b>
Cereals	0		
Forage Crops	2061	Total	4122
Miscellaneous Field Crops	2061		
Vegetables	0		
Fruits	0	<b>Reductions</b>	
Nuts	0	Small Lots	0%
Other	0	Forage	50%
Total	4122	Annual (Misc. field crops)	50%
		Orchards (Nuts)	0%

**ALTERNATIVE E**

<b>Crop</b>	<b>New Mexico</b>	<b>Acres Converted</b>	
Cereals	0	Total	7455
Forage Crops	2061	Small lots, forage, annual	4122
Miscellaneous Field Crops	2061	Orchards (Nuts)	3333
Vegetables	0		
Fruits	0	<b>Reductions</b>	<b>Acres</b>
Nuts	3333	Small Lots	0.00% 4122
Other	0	Forage	50.00%
Total	7455	Annual (Misc. field crops)	50.00%
		Orchards (Nuts)	100.00% 3333

**Estimated Acreage Reductions - New Mexico, Phase 3**

**ALTERNATIVES A,B,C AND D**

<b>Crop</b>	<b>New Mexico</b>	<b>Acres Converted</b>	
Cereals	0	Total	5153
Forage Crops	2577		
Miscellaneous Field Crops	2577	<b>Reductions</b>	
Vegetables	0	Small Lots	0%
Fruits	0		
Nuts	0	Forage	50%
Other	0	Annual (Misc. field crops)	50%
Total	5153	Orchards (Nuts)	0%

**ALTERNATIVE E**

<b>Crop Category</b>	<b>New Mexico</b>	<b>Acres Converted</b>		
Cereals	0	Total		5153
Forage Crops	2577	Small lots, forage, annual		5153
Miscellaneous Field Crops	2577	Orchards (Nuts)		0
Vegetables	0	<b>Reductions</b>		<b>Acres</b>
Fruits	0			
Nuts	0	Small Lots	0.00%	5153
Other	0	Forage	50.00%	
Total	5153	Annual (Misc. field crops)	50.00%	
		Orchards (Nuts)	100.00%	0

**Market Value Reductions - New Mexico  
(\$ Thousands)**

**ALTERNATIVES A,B,C, AND D**

<b>Crop Category</b>	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>
Cereals	0.00	0.00	0.00
Forage Crops	3126.39	1364.14	1705.34
Miscellaneous Field Crops	3522.38	1536.92	1921.33
Vegetables	0.00	0.00	0.00
Fruits	0.00	0.00	0.00
Nuts	0.00	0.00	0.00
Other	0.00	0.00	0.00
<b>Total</b>	<b>6648.78</b>	<b>2901.05</b>	<b>3626.67</b>

**ALTERNATIVE E**

<b>Crop Category</b>	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>
Cereals	0.00	0.00	0.00
Forage Crops	3126.39	1364.14	1705.34
Miscellaneous Field Crops	3522.38	1536.92	1921.33
Vegetables	0.00	0.00	0.00
Fruits	0.00	0.00	0.00
Nuts	7589.69	7589.69	0.00
Other	0.00	0.00	0.00
<b>Total</b>	<b>14238.47</b>	<b>10490.74</b>	<b>3626.67</b>

**EPWU ESTIMATES - Acreage Reductions for New Mexico**

**Alternatives A,B,C, and D**

	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>
Land Conversion (acres)	9447	4122	5153

**Alternative E**

	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>
Land Conversion (acres)	12780	7455	5153