

## Conclusions

The above analysis is by no means exhaustive and has been presented here mainly to highlight the overall economic characteristics of the valley and their implications on the natural resources. Economically the valley economy is beginning to show important structural changes - particularly in terms of the decreasing overall share and the commercialisation of agriculture. The changes in manufacturing and non-agricultural activities, important as they are, still appears to be growing relatively slowly. Inflation in the valley has turned out to be a major issue as it has depressed the growth in real incomes.

The changing demand structure of the valley - particularly urban demand - has both positive and negative signals. The opportunities for other areas in the Bagmati Zone to act as major suppliers of food and agricultural products to the Kathmandu Valley are substantial. The continued dependence on fuelwood, both by urban households and manufacturing, suggests that the pressures on the forests, if not in the region then elsewhere in the country, will continue to rise. The relatively limited nature of rural urban income differentials clearly points to a very early stage in the growth of the urban economy. The need for a stronger growth of the non-agricultural economy is quite obvious, but this growth cannot be induced except by the availability of cheap labour from rural areas. It needs capital, infrastructure, entrepreneurs, financial institutions, etc, just those critical areas where our present understanding is extremely poor.

# Tables

**Table 2.1: Forecasted Product and Factor Prices**

	1991	1992	1993	1994	1995	Growth
<b>Agricultural Prices</b>						
Paddy (Rs/Kg)	7.47	8.21	9.02	9.90	10.88	9.86
Wheat	6.03	6.34	6.65	6.99	7.34	5.02
Maize	5.93	6.23	6.54	6.87	7.22	5.05
Millet	6.32	6.79	7.29	7.84	8.42	7.47
M.Seed	27.12	28.66	30.34	32.18	34.18	5.96
Potatoes	5.66	6.08	6.53	7.01	7.52	7.36
Mutton	86.33	93.53	101.54	110.46	120.39	8.67
Chicken	69.33	75.79	82.87	90.64	99.17	9.36
Buffalo	32.58	35.96	39.72	43.92	48.60	10.51
Pork	43.17	47.33	51.89	56.89	62.37	9.64
Milk(Rs/lit)	9.41	10.23	11.11	12.07	13.12	8.65
Mustard oil price	54.53	58.39	62.55	67.05	71.91	7.16
Wage rate (Rs/day)	58.85	62.97	67.38	72.09	77.14	7.00
Bullocks (Rs/pd)	47.08	50.38	53.90	57.68	61.71	7.00
Manure (Rs/mt)	133.75	143.11	153.13	163.85	175.32	7.00
Ghee (Rs/lit)	112.93	121.25	130.33	140.24	151.04	7.54
Fertiliser prices (Rs/kg)	4.28	4.58	4.90	5.24	5.61	7.00
Wool	80.25	85.87	91.88	98.31	105.19	7.00
<b>Energy Prices</b>						
Petrol price (Rs/lit)	25.00	26.52	28.17	29.95	31.88	6.27
Diesel price (Rs/lit)	10.00	10.41	10.82	11.23	11.63	3.84
Kerosene price (Rs/lit)	8.00	8.26	8.52	8.78	9.05	3.13
Aviation fuel (Rs/lit)	13.26	14.19	15.18	16.23	17.38	7.00
Fuelwood (Rs/kg)	0.98	1.04	1.10	1.17	1.22	5.65
Electricity-commercial	2.10	2.44	2.83	3.22	3.80	16.00
Electricity-domestic (Rs million)	1.76	1.97	2.21	2.77	3.27	12.00

**Table 2.2: Forecasted Area under Different Crops (ha)**

	1991	1992	1993	1994	1995	Growth
Paddy	18694	18359	18025	17690	17355	-1.84
Maize	18853	19006	19159	19312	19466	0.80
Millet	804	623	443	262	81	-43.69
Wheat	15434	14935	14435	13936	13436	-3.41
Oilseed	178	95	13	0	0	-100.00
Potatoes	1982	2027	2073	2118	2163	2.21
Total cropped area	55945	55046	54147	53318	52501	-1.58
Total cultivated land	37547	37365	37184	37002	36821	-0.49
Area under irrigation	14072	14353	14640	14933	15231	2.00
Total fertiliser sale in dist.	22982	24814	26919	29296	31946	8.58

**Table 2.3: Forecasted Yield Rates of Different Crops (Kg/ha)**

	1991	1992	1993	1994	1995	Growth
Paddy	4392	4626	4878	5147	5433	5.46
Maize	1958	1991	2024	2058	2093	1.68
Millet	1075	1081	1086	1092	1098	0.53
Wheat	1890651	1960	2035	2115	2198	3.84
Oilseed	8294	665	679	693	708	2.11
Potatoes		8563	8846	9142	9448	3.31

**Table 2.4: Forecasted Changes in Crop Production (MT)**

	1991	1992	1993	1994	1995	Growth
Paddy	82099	84930	87923	91050	94287	3.52
Maize	36919	37836	38781	39753	40750	2.50
Millet	865	674	481	286	89	-43.39
Wheat	29171	29278	29381	29469	29528	0.30
Oilseed	116	63	9	0	0	-100.00
Potatoes	16437	17360	18360	19361	20440	5.60

**Table 2.5: Forecasted Gross Margin for Different Crops (Rs '000)**

	1991	1992	1993	1994	1995	Growth
Paddy	426719	499217	583215	680135	791542	16.70
Maize	75714	79734	84164	89030	94360	5.66
Millet	80011	85492	91502	97994	104915	7.01
Wheat	-559	-455	-337	-207	-66	-41.40
Oilseed	2259	1309	189	0	0	-100.00
Potatoes	61003	70407	81208	93583	107729	15.28
Total gross margin	645147	735704	839940	960534	1098480	14.23

**Table 2.6: Forecasted Gross Margin for Different Livestock (Rs '000)**

	1991	1992	1993	1994	1995	Growth
Cattle	76429	76435	76441	76445	76447	0.01
Milch cows	13100	13101	13102	13103	13103	0.01
Bullock + others	63329	63334	63339	63342	63344	0.01
Buffaloes-be	42539	42542	42544	42546	42547	0.00
Milch buffaloes	13322	13319	13316	13314	13313	-0.02
Sheep	24023	24035	24045	24052	24056	0.03
Goat	94347	94349	94350	94351	94351	0.00
Pig	3481	3669	3867	4076	4296	5.40
Poultry	314790	325493	336560	348003	359835	3.40
Total LSU	141950	142281	142622	142975	143339	0.24



**Table 2.7: Forecasted Annual Production and Growth in Livestock Products**

	1991	1992	1993	1994	1995	Growth
Cow's milk (@.487 lit/day)-200 day	1276	1276	1276	1276	1276	0.01
Buff's milk (@.953 lit/day)-200 day	2539	2539	2538	2538	2537	-0.02
Ghee ss (4&5% cow & buff) MT	53	53	53	53	53	-0.01
Net milk ss (mt)	2671	2670	2670	2670	2670	-0.01
Buffalo meat (mt)	1642.14	1642.25	1642.25	1642.40	1642.44	0.00
Goat and sheep meat (mt)	352.82	352.86	352.89	352.91	352.92	0.01
Chicken meat (mt)	415.52	429.65	444.26	459.36	474.98	3.40
Pork meat (mt)	32.72	34.48	36.35	38.31	40.38	5.40
Aggregate meat available (mt)	2443.21	2459.24	2475.83	2492.98	2510.72	0.68
Wool production (kg)	10574.03	10579.40	10583.62	10586.71	10588.70	0.03

**Table 2.8: Forecasted Gross Margin from Livestock (Rs '000)**

	1991	1992	1993	1994	1995	Growth
Buffaloes	39054	44611	50807	57714	65415	13.76
Sheep and goats	20025	21837	23885	26197	28805	9.52
Pigs	915	1071	1253	1465	1713	16.99
Poultry	24396	27679	31413	35661	40493	13.51
Cows (milk + ghee)	12530	13628	14829	16143	17581	8.83
Buffaloes (milk + ghee)	14997	16438	18015	19739	21626	9.58
Total gross margin from Livestock	111917	25264	140201	156920	175633	11.93

**Table 2.9: Forecasted Per Capita Rural Food Demand (kg/person/year)**

	1991	1992	1993	1994	1995	Growth
Cereals	184.02	170.85	170.66	170.92	170.91	-1.83
Vegetables	19.26	12.63	12.57	12.80	12.86	-9.60
Meat	7.03	3.92	3.97	3.86	3.83	-14.09
Milk	34.90	26.32	26.73	25.93	25.77	-7.30
Oils and fat	3.62	2.72	2.65	2.83	2.87	-5.60

**Table 2.10: Forecasted Per Capita Urban Food Demand (kg/person/year)**

	1991	1992	1993	1994	1995	Growth
Cereals	156.20	151.66	152.25	150.53	150.07	-1.00
Vegetables	24.10	20.48	19.98	21.30	21.63	-2.66
Meat	6.40	6.00	6.00	5.99	5.99	-1.65
Milk	33.00	31.98	32.17	31.67	31.54	-1.13
Oils and fat	4.40	3.70	3.56	3.91	4.00	-2.34

**Table 2.11: Forecasted Change in Food Balance in the Valley (ss-dd) in MT**

	1991	1992	1993	1994	1995	Growth
Cereals	-87461	-82065	-86443	-89663	-93709	1.74
Vegetables	-11046	-5487	-5053	-5983	-6184	-13.50
Meat	-4918	-3307	-3543	-3694	-3901	-5.63
Milk	-34602	-30861	-32460	-33008	-34173	-0.31
Oils and fat	-4359	-3637	-3670	-4154	-4405	0.26

**Table 2.12: Forecasted Values of Food and Non-Food Imports (Rs '000)**

	1991	1992	1993	1994	1995	Growth
FOOD: cereals	578978	583961	661941	739679	833723	9.54
Oils and fat	397457	384913	467776	582516	665263	13.74
Milk and products	325678	315610	360691	398522	448283	8.32
Vegetables	62556	33360	32983	41930	46522	-7.14
Meat -	229832	169778	200021	229584	267125	3.83
RURAL-NONFOOD: India	165955	173599	181657	190232	190232	4.67
Non-food: ROW	95832	100134	104664	109477	114484	4.55
URBAN: NON-FOOD: India	272699	280889	289293	297901	306702	2.98
Non-food: ROW	361803	370261	378861	387577	396385	2.31
Total Food Imports: Rur + Urb	1594500	1487623	1723412	1992231	2260916	9.12
Total Non-food Imports: Rural	261786	273733	286320	299709	313644	4.62
Total Non-food Imports: Urban	634501	651150	668154	685477	703088	2.60

**Table 2.13: Forecasted Fuelwood and Fodder Balances in the Rural Valley**

	1991	1992	1993	1994	1995	Growth
Total valley fuelwood supply (kg)	101789	101823	101855	101886	101915	0.03
Rural HHs: firewood dd (kg)	298461	304422	310356	316250	322090	1.92
Firewood bal (ss-dd)	-196672	-202599	-208501	-214501	-220175	-
Timber supply (m <sup>3</sup> )	3134	3102	3071	3071	3010	-1.00
Timber demand	-	-	-	-	-	-
Timber balance	-	-	-	-	-	-
Total valley fodder supply - Total digestible nutrient (TDN) (MT)	53601	53303	53005	52707	52409	-0.56
Fodder demand	153732	154090	154459	154841	155236	-
Fodder balance (ss-dd)	-100131	-100787	-101454	-102134	-102827	0.67

**Table 2.14: Forecasted Fuelwood Supply from Different Sources (MT)**

	1991	1992	1993	1994	1995	Growth
Fuelwood supply (kg): forest	41964	41935	41906	41876	41846	-0.07
Shrub	8159	9232	8304	8375	8445	0.86
Grassland	96	99	102	105	108	3.13
Non cultivated inclusion (NCI)	8351	8366	8381	8395	8409	0.17
Farmland	1254	1256	1257	1259	1260	0.12
Total valley fuelwood supply	101789	101823	101855	101886	101915	0.03
Timber supply (m <sup>3</sup> )	3134	3102	3071	3041	3010	-1.00

**Table 2.15: Forecasted Fodder Supply from Different Sources (MT)**

	1991	1992	1993	1994	1995	Growth
Forest	044	8953	8864	8775	8687	-1.00
Shrubland	9105	9186	9266	9346	9424	0.86
Grassland	268	277	286	295	303	3.13
Non cultivated inclusion (NCI)	2905	2910	2915	2920	2925	0.17
Riser and bunds	2509	2915	2515	2518	2521	0.12
Crop residue	22458	22144	21830	21517	21203	-1.43
Fallow grazing	2151	2153	2156	2158	2161	0.12
Tree fodder	5161	5167	5173	5179	5185	0.12
Total valley fodder supply (TDN)	53601	53303	53005	52707	52409	-0.56

**Table 2.16: Forecasted Demand for Energy: Urban Households**

	1991	1992	1993	1994	1995	Growth
Wood (MT)	29868	28228	26678	25213	23829	-5.49
Kerosene (MT)	6561	6607	6654	6701	6748	0.70
Electricity (mwhr)	33373	35640	38062	40649	43411	6.80

**Table 2.17: Forecasted Energy Demand in Manufacturing Sector**

	1991	1992	1993	1994	1995	Growth
Wood Kl (MT)	172340	200610	233501	271772	316303	16.39
Diesel (Kl) (MT)	7229	7333	7440	7548	7658	1.45
Kerosene (Kl) (MT)	185	183	181	179	178	-1.04
Electricity (mwhr)	204237	218301	233329	249387	266545	6.88
Coal (MT)	25530	28823	32508	36630	41242	12.74



**Table 2.18: Forecasted Energy Demand in Transport Sector**

	1991	1992	1993	1994	1995	Growth
Petrol (KI) (MT)	13004	13402	13812	14235	14671	3.06
Diesel (KI) (MT)	25767	27053	28403	29820	31308	4.99
Electricity: Trolley (mwhr)	2024434	2200559	2392008	2600113	2826323	8.70
Electricity: ropeway (mwhr)	279873	270637	261706	253069	244718	-3.30
Aviation (MT)	76262	77024	77795	78572	79358	1.00

**Table 2.19: Forecasted Energy Demand in the Valley**

	1991	1992	1993	1994	1995	Growth
Wood (MT)	500670	533260	57535	613235	662222	7.24
Diesel (KI)	32996	34386	35843	37368	38966	4.25
Kerosene (K)	6746	6790	6835	6880	6925	0.66
Electricity ('000 kWhr)	2541916	2725138	2925106	3143218	3380996	7.39
Coal (MT)	25530	28823	32508	36630	41242	12.74
Petrol (KI)	13004	13402	13812	14235	14671	3.06
Aviation fuel (KI)	76262	77024	77795	78572	79358	1.00
T-Qnty KTM (MT) Import no aviation	41713	43188	44717	46311	47975	3.55

**Table 2.20: Projected Cost of Energy Imports Consumed in the Valley**

	1991	1992	1993	1994	1995	Growth
Diesel ('000 Rs)	330088	358003	387764	419487	453296	8.25
Petrol ('000 Rs)	325049	355457	389114	426382	467664	9.52
Kerosene ('000 Rs)	53940	36075	58237	60425	62640	3.81
Total ('000 Rs)	70977	769536	835115	906294	983600	8.53
Per capita urban (Rs)	1197	1237	1278	1321	1365	3.35

**Table 2.21: Forecasted Rural and Urban Population and Changes in the Size of Active Population**

	1991	1992	1993	1994	1995	Growth
Econactive: urban	330072	346609	363974	382209	401358	5.01
Econactive pop: rural	264023	268993	273912	278769	283547	1.80
Econactive total valley	594095	615601	637886	660978	484905	3.62
Total rural population	507587	517725	527817	537841	547772	1.92
Urban population	592589	622278	653454	686192	720570	5.01
Total population	1100176	1140002	1181270	1224032	1268342	3.62
Rural households	82400	84046	85685	87312	88924	1.92
Urban households	107743	113141	118810	124762	131013	5.01

**Table 2.22: Projected Changes in Rural Employment ('000 Mandays)**

	1991	1992	1993	1994	1995	Growth
Labour days available	66006	67248	68478	69692	70887	1.80
Labour use on crops	62051	63037	63982	64885	65731	1.45
Livestock	14195	14228	14262	14297	14334	0.24
Professional	1014	1033	1052	1070	1089	1.80
Office workers	1141	1162	1183	1204	1225	1.80
Sales and service	2408	2453	2498	2542	2586	1.80
Production workers	2661	2711	2761	2810	2858	1.80
Construction etc	634	646	657	669	681	1.80
General labourers	5513	5617	5719	5821	5920	1.80
Total labour use	89616	90887	92115	93299	94424	1.32
Labour use as % of available	135.77	135.15	134.52	133.87	133.20	-0.48
Labour balance %	-35.77	-35.15	-34.52	-33.87	-33.20	-1.84

**Table 2.23: Urban Employment Situation by Industry**

	1991	1992	1993	1994	1995	Growth
Agriculture & livestock	62181	60378	58627	56927	55276	-2.90
Manufacturing	30478	31850	33283	34781	36346	4.50
Electricity	388	434	485	543	607	11.80
Construction & transport	12014	12759	13550	14390	15283	6.20
Trade, hotel, real estate, etc	29913	31200	32541	33941	35400	4.30
Public services	86913	92387	98207	104394	110971	6.30
Private service	5842	5900	5959	6019	6079	1.00
Industry not stated & others	26420	27186	27975	28786	29621	2.90
Total urban employment	254150	262095	270629	279781	289583	3.32
Urban labour balance %	75922	84514	93345	102428	111775	10.15
Labour use as % of availability	77.00	75.62	74.35	73.20	72.15	-1.61
Total labour balance in valley	-18518	-10041	-1203	8001	17626	
Valley labour use as % of avail.	103	102	100	99	97	-1.41

**Table 2.24: Urban Employment Situation by Occupation**

	1991	1992	1993	1994	1995	Growth
Professional	14064	14893	15773	16709	17703	5.92
Administrative	44236	46870	49670	52646	55808	5.98
Clerical	15624	16526	17483	18500	19579	5.80
Sales	24013	25066	26165	27314	28515	4.39
Services	34759	36739	38839	41066	43429	5.73
Agriculture	61373	59593	57865	56187	54557	-2.90
Manufacturing	50763	53420	56222	59178	62298	5.25
Occup. not stated & others	6317	8989	8611	8181	7693	-4.68
Total	254150	262095	270629	279781	289583	3.32



**Table 2.25: Forecasted Rural Income by Source (Rs '000)**

	1991	1992	1993	1994	1995	Growth
Crop	645147	735704	839940	960534	1098480	14.23
Livestock	111917	125264	140201	156920	175633	11.93
Professional	36630	39932	43509	47380	51566	8.93
Office workers	42926	46796	50987	55523	60429	8.93
Sales and service workers	78539	85619	93288	101587	110562	8.93
Production workers	64103	69882	76141	82915	90240	8.93
Construction, etc	19078	20798	22661	24677	26857	8.93
General labourers	121720	132692	144577	157440	171349	8.93
Total rural valley income	1120061	1256686	1411304	1586977	1785115	12.36
Per capita rural income (Rs)	2207	2427	2674	2951	3259	10.24
Real per capita income	2207	2258	2312	2368	2425	2.38
Per capita real income growth	-	0.23	0.24	0.24	0.24	-

**Table 2.26: Forecasted Urban Income by Sector (Rs '000)**

	1991	1992	1993	1994	1995	Growth
Agriculture	658737	684869	712081	740422	769945	3.98
Manufacturing	513035	577975	651220	733842	827052	12.68
Electricity, water, etc.	321250	363085	410439	464047	524743	13.05
Construction, transport, etc.	589424	664873	750090	846350	955097	12.82
Trade, hotels, etc.	414121	464301	520621	583838	654804	12.14
Public & private	406563	459568	519576	587522	664465	13.07
Industry (not stated) & others	1234355	1393483	1573655	1777702	2008837	12.95
Total	4137484	4608154	5137682	5733722	6404941	11.54

**Table 2.27: Forecasted Urban Income by Occupation (Rs '000)**

	1991	1992	1993	1994	1995	Growth
Professional	311118	352511	399487	452807	513335	13.34
Administrative	1384307	1569411	1779574	2018215	2289224	13.40
Clerical	212850	240896	272693	308746	349633	13.21
Sales	388680	434120	484890	541616	604999	11.70
Services	562623	636294	719749	814300	921434	13.13
Agricultural	662266	688075	714889	742749	771693	3.90
Manufacturing	547775	616793	694591	782296	881177	12.62
Occup. not stated & others	67865	70054	71809	72995	73447	2.00
Total urban valley income	4137484	4608154	5137682	5733722	6404941	11.54
Per capita real income	6982	6889	6797	6705	6614	-1.35
Per capita urban income (Rs)	6982	7405	7862	8356	8889	6.22
Per capita real income growth	-	-0.01	-0.01	-0.01	-0.01	-