Cost and Return Economic Analysis of Non-Rice Crops

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Purpose

Large number of non-rice and cash crops are grown in the southern regions of Bangladesh, the latest information from farmers on yield, cost and return, and price of those targeted crops should be available for the benefit of extensionists, traders, exporters, farmers, policymakers, bureaucrats, project staff and the relevant other users. Accordingly, AAS has undertaken initiative to collect the relevant primary data for cost and return analysis of those targeted crops and their varieties in 15 districts in southern regions during May-July 2012.

Data collection, analysis and report preparation

AAS staff collected primary data for costs and returns of 62 crops including seed production with 9 crops and their 129 varieties from 889 farmers using one page structured questionnaire developed by AAS. Data were collected from the successful farmers at the selected communities in 15 districts in southern regions of Bangladesh: Meherpur, Chuadanga, Jhenaidah, Magura, Jessore, Khulna, Satkhira, Bagerhat, Faridpur, Barisal, Patuakhali, Bhola, Gopalganj, Madaripur and Narail districts. These 15 districts are among USAID's Feed the Future (FtF) targeted 20 districts in southern regions of Bangladesh. Collected data were clean for analysis and entered in MS Excel spread sheet, and analysis was done using MS Excel and SPSS.

Summary report on 62 non rice crops with their 129 varieties was prepared for distribution among the interest persons, projects and organizations. Out of total 62 crops, the highest crops were with vegetables (33) followed by seed crops (9), spices (6), fruits (4), pulses/oil seeds (3), cereals (2) and fibre/sugar crops (1). Crop type-wise crop list is provided in Table.9. The highest number of varieties involved with vegetables (75) and least number of varieties involved with sugarcane (1). Crop type-wise number of crops and their number of varieties and the number of farmers interviewed are provided below:

Crop type-wise number of crop and their number of variety and number of farmers' interviewed in 15 districts

SL #	Crop Type	Crop (Nr.)	Variety (Nr.)	Farmer (Nr.)
1	Vegetable	33	75	557
2	Fruit	4	14	83
3	Spices	6	12	83
4	Pulses	3	5	35
5	Oilseeds	3	8	31
6	Fibre	1	2	50
7	Sugar crop	1	1	5
8	Cereal	2	2	13
9	Seed	9	10	32
Total		**62**	**129**	**889**

Cost and return analysis was conducted for (a) 33 vegetable crops [Brinjal, Winged yam, Pointed gourd, Bitter gourd (large), Bitter gourd (small), Radish, Ribbed gourd, Yard long bean, Turnip, Green papaya, Spinach, Elephant foot, Teasle gourd, Snake gourd, Knolkhol, Amaranth (Lalshak), Amaranth (Data), Taro (Mukhi), Cauliflower, Wax gourd, Potato, Country bean, Cucumber, Plantain, Tomato, Pumpkin, Bottle gourd, Indian Spinach, Taro (Loti), Gima Kolmi, Okra, Sponge gourd and Cabbage], (b) 4 fruit crops (Papaya, Melon, Banana and watermelon), (c) 6 spices (Corriander, Fennel, Chilli, Onion, Garlic and Turmeric), (d) 3 pulses (Lentil, Mungbean and Chickpea), (e) 3 oilseeds (Mustard, Seasame and Groundnut), (f) one fibre crop (Jute), (g) One sugar crop (Sugarcane), (h) two cereal crops (wheat and maize) and (i) 9 seed crops [Onion, Yard long bean, Spinach, Bottle gourd, Ribbed gourd, Gima Kolmi, Indian Spinach, Amaranth (Lalshak) and Okra].

Report summarizing costs and returns analysis for 62 non-rice crops (53 crops and 9 seed crops) and their 129 varieties from 889 interview farmers use the following data categories and definitions:

(a) Cost of production (Tk/ha) for 62 crops include costs for land preparation, labor, seed, fertilizer, crop protection, irrigation, land rent, transportation and interest on working capital. The total cost is estimated on full cost basis **(FCB)** and cash cost basis **(CCB)** in taka per hectare.

    (i) Full cost includes: (1) land preparation, (2) labour (total labor valued at 100% of the market wage rate), (3) seed, (4) fertilizer, (5) pesticide, (6) irrigation, (7) land rent and (8) interest on working capital
    (ii) Cash cost includes: (1) land preparation, (2) seed, (3) fertilizer, (4) pesticide, (5) irrigation, (6) labour (total labor valued at 50% of the market wage rate), and (7) interest on working capital.

(b) Gross return (Tk/ha) is estimated by valuing harvested 62 crops and their 129 varieties at the local market sale price.
(c) Net returns (Tk/ha) are estimated on full cost and cash cost bases.
(d) Cost-benefit ratios are estimated on full cost and cash cost bases.
(e) Yields (t/ha) are estimated from the respondent farmers and averaged for 129 varieties of 62 involved crops.
(f) Crop produces and seed production cost (Tk/unit) is estimated from respondent farmers for each varieties and crops.
(g) Crop produces and seed sale price (Tk/unit) is estimated from respondent farmers for each varieties and crops.

Findings

Summary on cost and return analysis for 129 varieties of 62 crops during 2011-12 cropping season are presented in Tables 1-8. Major findings of 62 crops on cost and return analysis are presented below for nine crop types:

I. Vegetable crops

Cost and return analysis for 33 vegetable crops was administered and findings are presented in Tables.1.1-1.7 and crop-wise brief findings are described below:

Brinjal: Cost and return analysis was administered for Brinjal with 8 cultivars in nine districts. Among the 8 varieties of Brinjal, the highest yield reported for Vangor variety (99.25 t/ha) and lowest yield reported for Ireat variety (56.9 t/ha). The highest net-return is estimated for Vangor variety (Tk. 786375/ha) and the lowest net-return for Ireat variety (Tk. 296538/ha) on cash cost basis **(CCB)**. Similarly the highest net-return is estimated for Vangor variety (Tk.604175/ha) and the lowest net-return for Ireat variety (Tk. 146078/ha) on full cost basis **(FCB)**. Thus the Brinjal crop production is found as a **very high value** vegetable cash crop (Table1.1).

Cabbage: Cost and return analysis was conducted for Cabbage with seven hybrids during winter and summer seasons. The highest net-return is estimated (Tk.224141/ha) for K-K cross variety (summer season) and the lowest net-return (Tk.108254/ha) for 621 variety (winter season) on CCB. Similarly, the highest net-return is estimated with K-K cross (Tk. 173886/ha) and the lowest net-return for 621 (Tk.54783/ha) on FCB. Overall, higher net-return is estimated for summer season than winter season cabbage production. Cabbage production is found as short duration **high value** vegetable cash crop during summer and winter seasons (Table.1.2).

Cauliflower: Cost and return analysis was conducted for cauliflower with eight hybrids. The highest net-return is estimated for Marbell variety (Tk. 219559/ha) and lowest net-return (Tk.153021/ha) with Conteser variety on CCB. Similarly, the highest net-return is estimated for Marbell variety (Tk.170129/ha) and lowest net-return with Bigshort variety (Tk.94489/ha) on FCB. Accordingly, Cauliflower production is found as short duration **high value** vegetable cash crop (Table.1.2).

Country bean: Among the eight cultivars of country bean, the highest yield reported for Cutly variety (43.50 t/ha) and the lowest yield reported with local variety (25.50 t/ha). The highest net-return is estimated for Rupbhan variety (Tk. 255296/ha) and the lowest with Ireat variety (Tk.107036/ha) on CCB. Similarly, the highest net-return is estimated for Rupbhan variety (Tk.124698/ha) and the lowest net-return is estimated for Ireat variety (Tk.11731/ha) on FCB. Thus, country bean production is found as **high value** long duration vegetable cash crop with narrow cost-benefit ratios along high production cost under both CCB and FCB (Table.1.3).

Yard long bean: Yield of yard long bean (String bean) was reported only about 8.34 t/ha. On the other hand, sale price (Tk.12.08/kg) of yard long bean was lower than production cost under CCB (Tk.12.83/kg) and FCB (Tk.18.90/kg). Accordingly, the estimated net-returns were negatives for both CCB (-Tk. 6444/ha) and FCB (-Tk. 57009/ha) for yard long bean production. Accordingly, Yard long bean production is found as a **very low value** cash vegetable crop (Table.1.3).

Amaranth (Lalshak): Among the three varieties, the highest net-return is estimated for the local varieties (Tk.101202/ha) and lowest with Dingi variety (Tk. 80989/ha) under CCB. Similarly, the highest net-return is estimated for local variety (Tk.71356/ha) and lowest with Dingi variety (Tk.41140/ha) under FCB. Amaranth (Lalshak) production is found as very short duration profitable leafy vegetable crop with low investment under both CCB and FCB. Accordingly, Amaranth (Lalshak) production is found as a **moderately high value** cash vegetable crop (Table.1.4).

Amaranth (Danta): The reported yield of Katua Danta (25.86 t/ha) was about 54% higher than Bashpata Danta (16.83 t/ha). But the higher net-profit is estimated with Bashpata Danta (Tk. 92566/ha) than Katua Danta (Tk. 82100/ha) under CCB. Similarly net-return trends are estimated for Bashpata (Tk. 54871/ha) and Katua (Tk. 42499/ha) under FCB. However, both Bashpata danta and Katua Danta are found as short duration profitable vegetable crops with

low investment under CCB and FCB. Accordingly, Amaranth (Danta) production is found as a **moderately high value** cash vegetable crop (Table.1.4).

Spinach: Yield of Spinach was reported only about 8.18 t/ha. The sale price (Tk. 11.94/kg) of Spinach was higher than production cost (Tk. 7.76/kg) for CCB and which was lower than production cost (Tk.12.67/kg) for FCB. Accordingly, net-return for Spinach production was about Tk. 34078/ha for CCB and such net-return was negative (-Tk.6106/ha) for FCB. Thus, Spinach production is found as **low value** short duration leafy vegetable crop with low investment (Table.1.4).

Indian Spinach: The higher net-profit is estimated for LIV (Tk. 77502/ha) than local variety (Tk. 66385/ha) of Indian Spinach under CCB. Similarly, the higher net-profit is estimated for LIV (Tk.27821/ha) than local variety (Tk. 13238/ha) of Indian Spinach under FCB. Overall, the higher net-profit estimated under CCB than FCB for Indian Spinach production. Accordingly, Indian Spinach production is found as **moderately high value** short duration vegetable crop (Table.1.4).

Gima Kolmi: Yield of Gima Kolmi was reported 26.63 t/ha. Net-profit is estimated Tk.168137/ha for CCB and Tk.107066/ha for FCB for Gima Kolmi production. Thus, Gima Kolmi production is found as high value short duration leafy vegetable crop. Accordingly, Gima Kolmi production is found as **moderately high value** short duration vegetable crop (Table.1.4).

Radish: The reported yield of radish hybrid grown during winter season was about 76% higher (36.88 t/ha) than the white summer (20.95 t/ha) grown during summer season. But the higher net-profit is estimated with white summer grown during summer season (Tk. 346684/ha) than radish hybrid grown during winter season (Tk.275185/ha) under CCB. Similarly, the higher net-profit is estimated with white summer grown during summer season (Tk. 298115/ha) than radish hybrid grown during winter season (Tk.225185/ha) under FCB. Accordingly, radish cultivation during summer season was found more profitable than winter season. However, radish production is found as **high value** short duration vegetable crop (Table.1.5).

Turnip: Net-profit for Turnip cultivation is estimated Tk.61556/ha for CCB and such net-profit was negative (-Tk.1887/ha) for FCB with low sale price. Thus, turnip cultivation is **not profitable** on full cost basis. Accordingly, Turnip production is found as a **very low value** cash vegetable crop (Table.1.5).

Knolkhol: Net-profit for knolkhol production is estimated Tk. 82844/ha and Tk. 82319/ha for local and hybrid variety respectively under CCB and that was estimated Tk. 43372/ha and Tk.43901/ha for local and hybrid variety respectively under FCB. Accordingly knolkhol cultivation is found as **moderately high value** cash vegetable crop (Table.1.5).

Mukhi Taro: Among the ten sets of cost and return analysis for Mukhi Taro, the highest yield reported for Aush variety in Jhenaidah district (25.61t/ha) and the lowest for Amon variety in Khulna district (20.00t/ha).The highest net-return is estimated for Aush variety in Khulna district (Tk. 278441/ha) and lowest for Amon variety in Khulna district (Tk. 138786/ha) under CCB. On the other hand the highest net-return is estimated for Aush variety in Khulna district (Tk. 195267/ha) and lowest for Amon variety in Bagerhat district (Tk. 35901/ha). Thus, Mukhi Taro cultivation is found as **very high value** cash vegetable crop (Table.1.5).

Loti Taro: Net-return for Loti Taro cultivation is estimated Tk. 280457/ha for CCB and Tk.166028/ha for FCB with average reported yield (31.05 t/ha) and higher sale price

(Tk.14.60/kg) than production cost (Tk.6.52/kg on CCB and Tk.10.21/kg on FCB). Accordingly, Loti Taro production is found as **very high value** cash vegetable crop (Table.1.5).

Potato: Among three varieties of potato, the highest net-return is estimated with Diamont variety (Tk.167282/ha) followed by cardinal (Tk.147882/ha) and Katora an indian variety (Tk.114392/ha) under CCB. Similarly, the highest net-return is estimated with Diamont (Tk.102783/ha) followed by Cardinal (Tk.81419/ha) and Katora (Tk. 29544/ha) under FCB. Thus, Potato cultivation is found as **high value** cash vegetable crop (Table.1.5).

Winged Yam: Net-return for Winged Yam cultivation is estimated Tk. 313017/ha for CCB and Tk.258968/ha for FCB with average reported yield (31.50 t/ha) and higher sale price (Tk.24.00/kg) than production cost (Tk.7.91/kg on CCB and Tk.11.20/kg on FCB). Accordingly, Winged Yam production is found as **very high value** cash vegetable crop (Table.1.5).

Elephant Foot: The reported yield of Indian variety of Elephant Foot (31.92 t/ha) was about 57% higher than the local variety (20.37 t/ha). The higher net-profit is estimated with Indian variety of Elephant Foot (Tk. 338457/ha) than local variety (Tk. 273649/ha) under CCB. Similarly net-return trends are estimated for Indian variety (Tk. 237725/ha) and local variety (Tk. 185707/ha) under FCB. However, both Indian and local varieties of Elephant foot are found as profitable vegetable crop under CCB and FCB. Accordingly, Elephant Foot production is found as **very high value** cash vegetable crop (Table.1.5).

Green Papaya: Net-return for green Papaya production is estimated Tk. 167920/ha for CCB and Tk. 117865/ha for FCB with average reported high yield (57.75 t/ha), better sale price (Tk. 8.50/ka) than production cost for both CCB (Tk.2.72/kg) and FCB (Tk.4.47/kg) and high investment for CCB (Tk.157172/ha) and FCB (Tk.258283/ha). Accordingly, Green Papaya production is found as **high value** vegetable crop (Table.1.6).

Plantain (Green Banana): Net-return for plantain production is estimated Tk. 345809/ha on CCB and Tk. 244006/ha on FCB with better sale price (Tk.225/bunch) than production cost for both CCB (Tk.63.46/bunch) and FCB (Tk.111/bunch) and high investment for CCB (Tk.135654/ha) and FCB (Tk.237457/ha). Thus, plantain production is found as **very high value** vegetable crop (Table.1.6).

Tomato: Net-return for hybrid Tomato production is estimated Tk. 426533/ha for CCB and Tk.323950/ha for FCB with average reported high yield (59.17 t/ha), better sale price (Tk.9.58/kg) than production cost for both CCB (Tk.2.80/kg) and FCB (Tk.4.8/kg) and high investment for CCB (Tk.165601/ha) and FCB (Tk.268184/ha). Accordingly, Tomato is found as **very high value** cash vegetable crop (Table.1.6).

Okra: Net-return for hybrid Okra production is estimated Tk. 163817/ha for CCB and Tk.98105/ha for FCB with average good yield (20.90 t/ha), better sale price (Tk.13/kg) than production cost for both CCB (Tk.5.06/kg) and FCB (Tk.8.21/kg) and high investment for CCB (Tk.105775/ha) and FCB (Tk.171486/ha). Thus, Okra is found as **moderately high value** cash vegetable crop (Table.1.6).

Pointed gourd: Net-returns for local green and local varieties of pointed gourd are estimated Tk. 381251/ha and Tk.360844/ha respectively for local green variety and local variety of pointed gourd on CCB. Similarly, net-returns for local green and local varieties of pointed gourd are estimated Tk. 267217/ha and Tk. 251686/ha respectively on FCB. Accordingly, pointed gourd cultivation is found as **very high value** cash vegetable crop (Table.1.7).

Bitter gourd (Large-Korola): The reported yield of hybrid Bitter gourd-Korola (28.28 t/ha) was about 64% higher than the local variety of Bitter gourd (17.27 t/ha). Net-returns of hybrid variety are estimated Tk. 163895/ha for CCB and Tk. 92,473/ha for FCB with higher sale price (Tk.12.24/kg) than the production cost for both CCB (Tk. 6.15/kg) and FCB (Tk.8.67/kg) and high investment (Tk.173838/ha for CCB and Tk. 245260/ha for FCB). On the other hand, net-return of local variety of Bitter gourd is estimated Tk.64813/ha for CCB and negative net-return is estimated for FCB, this due to higher production cost and low yield. Accordingly, only hybrid bitter gourd (Korola) is found as **high value** cash vegetable crop and profitability of local variety of Bitter gourd is not found encourages to growing (Table.1.7).

Bitter gourd (Small-Uchetta): Net-return of local variety of Bitter gourd (Uchetta) is estimated Tk. 75731/ha for CCB and Tk. 16341/ha for FCB with low yield (8.56 t/ha), higher investment for both CCB (Tk.95172/ha) and FCB (Tk.155731/ha) and high sale price (Tk.20/kg). Thus, the local variety of Bitter gourd (Uchetta) is found as moderately profitable and **low value** vegetable crop (Table.1.7).

Ribbed gourd: Net-returns of both hybrid and local variety of Ribbed gourd are estimated Tk.51516/ha for hybrid and Tk.50080/ha for local variety under CCB. But such net-returns are estimated negative values for both of hybrid (Tk.-Tk.5032) and local variety (-Tk.8789) under FCB. Thus, Ribbed gourd production is not found economically profitable vegetable crop and it would not be encouraging for the farmers to grow as a high value cash crop. Accordingly, Ribbed gourd production is found as a **very low value** cash vegetable crop (Table.1.7).

Teasel gourd: Net-returns of Teasel gourd production are estimated Tk.293692/ha for CCB and Tk.210055/ha for FCB with average reported high yield (34.50 t/ha), better sale price (Tk. 14.50/kg) than the production cost for both CCB (Tk. 5.98/kg) and FCB (Tk.8.40/kg) and high investment for CCB (Tk.206296/ha) and FCB (Tk.289933/ha). Accordingly, Teasel gourd is found as **very high value** cash vegetable crop (Table.1.7).

Snake gourd: Net-returns of both hybrid and local variety of snake gourd are estimated Tk.47377/ha for hybrid and Tk.42220/ha for local variety of snake gourd under CCB. But such net-returns are estimated negative values for local variety (-Tk.4343) and low net-return (Tk. 2277/ha) for hybrid under FCB. Thus, snake gourd production is not found economically profitable vegetable crop and it would not be encouraging for the farmers to grow as a high value crop. Accordingly, Snake gourd production is found as a **very low value** cash vegetable crop (Table.1.7).

Cucumber: Net-returns of hybrid Bottle gourd are estimated Tk.228850/ha with CCB and Tk. 167436/ha with FCB. Similarly, net-returns of local variety of cucumber are estimated Tk.216708/ha with CCB and Tk.151958/ha with FCB. Accordingly, Cucumber cultivation is found encouraging among the farmers as **high value** cash vegetable crop (Table.1.7).

Pumpkin: Net-returns of hybrid pumpkin are estimated Tk.77282/ha under CCB and Tk.30447/ha under FCB. Thus hybrid pumpkin cultivation is found as moderately profitable and **low value** cash vegetable crop (Table.1.7).

Bottle gourd: Net-returns of hybrid Bottle gourd are estimated Tk.86009/ha for CCB and Tk.36661/ha for FCB. The estimated net-returns are found low due to lower fruit yield production with low price. However, Bottle gourd in general considered as high value cash short duration vegetable crop. But in this analysis, it is evident that the bottle gourd cultivation is moderately profitable and **low value** cash vegetable crop (Table.1.7).

Sponge gourd: Estimated net-returns for both hybrid (Tk. 55562/ha) and local variety (Tk.20232/ha) of sponge gourd were positive under CCB and such estimated net-returns were negative for hybrid (-Tk.12940/ha) and local variety (-Tk.36917/ha) under FCB. Thus, sponge gourd is not found encouraging for farmers to grow as a profitable vegetable crop. Accordingly, Sponge gourd production is found as a **very low value** cash vegetable crop (Table.1.7).

Wax gourd: Estimated net-returns for both hybrid (Tk.45964/ha) and local variety (Tk. 33148/ha) of Wax gourd were positive under CCB and such estimated net-returns were negative for hybrid (-Tk.10111/ha) and local variety (-Tk.17224/ha) under FCB. Thus, Wax gourd is not found encouraging for farmers to grow as a profitable vegetable crop. Accordingly, Wax gourd production is found as a **very low value** cash vegetable crop (Table.1.7).

II. Fruits

Cost and return analysis for four fruit crops was conducted and findings are presented in Table.2 and fruit crop-wise brief findings are described below:

Papaya: Papaya cultivation in three districts was found encouragingly profitable. The highest net-returns are estimated in Magura district (Tk.341599/ha) and the lowest in Jhenaidah district (Tk. 167920/ha) under CCB. Similarly, the highest net-return is estimated in Magura district with local variety (Tk. 234918/ha) and lowest in Jhenaidah district with local variety (Tk. 117865/ha) under FCB. Accordingly, Papaya cultivation is found as **very high value** fruit crop (Table.2).

Melon: Net-returns for Lalmi variety of melon are estimated Tk.226228/ha for CCB and Tk.156844 for FCB. Thus, melon cultivation is found as **high value** fruit crop (Table.2).

Banana: Among the three varieties of Banana, the highest net-return was estimated for Sobri variety of Banana (Tk.470428/ha) followed by Champa variety (Tk.280254/ha) and Rangin Sagor (Tk.255050/ha) under CCB. Similarly, the highest net-return is estimated for Sobri variety of Banana (Tk.371342/ha) followed by Champa variety (Tk.179411/ha) and Rangin Sagor (Tk.148240/ha) under FCB. Accordingly, Banana cultivation is found as **very high value** cash fruit crop (Table.2).

Watermelon: Among the eight cultivars of watermelon, the highest net-return is estimated for All Queen Variety of watermelon (Tk.179062/ha) and lowest net-return is estimated for other hybrids of watermelon (Tk.118428/ha) under CCB. Similar trend of net-returns are estimated for eight varieties of watermelon under FCB. Accordingly, watermelon cultivation is found as **high value** cash fruit crop in southern regions in general and extreme south central, south west and southeast coastal regions of the country in particular (Table.2).

III. Spices

Cost and return analysis for six spices is conducted and findings are presented in Table.3 and spices crop-wise brief findings are described below:

Chili: Among the five varieties of chili, the highest net-return is estimated for Magura variety of chili (Tk. 428756/ha) and the lowest net-return is estimated for Bogura variety of chili (Tk. 281748/ha) under CCB. But the highest net-return is estimated for Magura variety (Tk.228676/ha) and the lowest for Patakandy variety (Tk.228676/ha) under FCB. Accordingly, chili cultivation is found as **very high value** cash spice crop (Table.3).

Fennel: Estimated net-returns for Fennel were found low for CCB (Tk.24825/ha) and very low for FCB (Tk.3419/ha). Thus, Fennel can be grown as a **very low value** crop (Table.3).

Garlic: Net-returns of Garlic are estimated Tk.90363/ha for CCB and Tk. 30424/ha for FCB. Such low net-return is estimated due to low yield and low sale price of the produces. However, the Garlic cultivation would be attractive among the farmers with high sale price. Moreover, Garlic cultivation under this analysis is found moderately profitable and **low value** cash spice crop (Table.3).

Turmeric: The higher net-return is estimated for Makhalbari variety of Trumeric (Tk. 242765/ha) and lower net-return is estimated for local variety (Tk.152317/ha) under CCB. Similarly, the higher net-return is estimated for Makhalbari variety (Tk.134740/ha) and lower net-return is estimated for local variety (Tk.38544/ha) under FCB. However, the net-returns for Makhalbari variety is found better with higher sale price than the local variety under same yield. Thus better quality of Turmeric variety is to be cultivated to achieve higher profit with higher sale price. However, HYV turmeric cultivation is found as **high value** cash spice crop (Table.3).

Onion: Among the three onion production methods, the highest net-return is estimated for seedling to bulb production method with Taherpuri variety (Tk.151561/ha) followed by direct seeded method with Suksagor variety (Tk.145803/ha) and set to bulb production with Taherpur variety (Tk.95464/ha) under CCB. Similarly, the highest net-return is estimated for seedling to bulb production method with Taherpuri variety (Tk.75646/ha) followed by directed seeded method with Suksagor variety (Tk.55544/ha) and set to bulb production method with Taherpur (Tk.29181/ha) under FCB. Profitability of onion production is heavily dependent on the sale price. However, onion cultivation could be attractive as a profitable crop with higher sale price. Moreover, onion cultivation is found as moderately profitable and **moderately high value** cash spice crop (Table.3).

Coriander: Net-returns of coriander are estimated Tk.39765/ha for CCB and Tk. 9545/ha for FCB. Such low net-returns are estimated due to low yield and low sale price of the produces. Thus, coriander can be grown as a **low value** spice crop (Table.3).

IV. Pulses

Cost and return analysis for three pulse crops is conducted and findings are presented in Table.4 and pulse crop-wise brief findings are described below:

Mung bean: The higher net-return is estimated for BARI Mung 4 (Tk.53426/ha) and lower net-return is estimated for BARI Mung 6 (Tk.52218/ha) under CCB. Similarly, the higher net-return is estimated for BARI Mung 4 (Tk.14695/ha) and lower net-return is estimated for BARI Mung 6 (Tk.11292/ha) under FCB. However, Mung bean cultivation is found as a **low value** pulse crop (Table.4).

Chickpea: Net-returns of chickpea are estimated Tk. 63752/ha under CCB and Tk. 35684/ha under FCB. However, chickpea cultivation is found as a **low value** pulse crop (Table.4).

Lentil: The higher net-return is estimated for Indian variety of lentil (Tk.78281/ha) than local variety of lentil (Tk.72616/ha) under CCB. Similarly, the higher net-return is estimated for Indian variety of lentil (Tk. 37132/ha) than local variety (Tk.32032/ha) under FCB. However, lentil cultivation is found as a **low value** pulse crop (Table.4).

V. Oil Seeds

Mustard: Among the three varieties of mustard, the highest net-return is estimated for local variety of mustard (Tk.57099/ha) followed by Rai mustard (Tk.42084/ha) and HYV mustard (Tk.41129/ha) under CCB. The highest net-return is estimated for local variety of mustard (Tk.21998/ha) followed by Rai mustard (Tk.7841/ha) and negative net-return with HYV mustard (-Tk. 4742/ha) under FCB. Thus mustard cultivation is found as a **low value** oil crop (Table.5).

Sesame: Among the four varieties of sesame, the highest net-return is estimated for Art Shiral variety of sesame (Tk.51017/ha) followed by local variety (Tk.43991/ha), white variety (Tk.41390/ha) and Kattil variety (Tk.40058/ha) under CCB. The highest net-return is estimated for Art Shiral variety of sesame (Tk.12721/ha) followed by local variety (Tk.9812/ha), white variety (Tk.8368/ha) and Kattil variety (Tk.4884/ha) under FCB. However, sesame cultivation is found as a **low value** oil crop (Table.5).

Groundnut: Net-returns of Groundnut are estimated Tk.87019/ha under CCB and Tk.45448/ha under FCB. However, Groundnut cultivation is found as a **low value** oil crop (Table.5).

VI. Fibre Crop

Jute: Among the nine jute production districts, the highest net-return is estimated in Faridpur district for both Tossa (Tk.112699/ha) and Deshi (Tk.95293/ha) varieties of Jute and lowest in Kushtia district (Tk.45955/ha) under CCB. Such net-returns are estimated either very low or negatives under FCB.. Profitability of Jute cultivation is heavily depended on sale price of raw Jute in the local market. Accordingly, Jute cultivation is found as a **low value** fibre crop (Table.6).

VII. Cereal Crops

Wheat: Net-returns for Shatabdi variety of wheat are estimated Tk.42646/ha for CCB and Tk.3328/ha for FCB. The profitability of wheat cultivation under CCB is found low and very thin under FCB. Accordingly, wheat cultivation is not so attractive as compared to high value cash crops among the farmers in the country. Thus, wheat cultivation is found as a **low value** cereal crop (Table.7).

Maize: Net-returns for hybrid maize are estimated Tk.50414/ha for CCB and Tk.3365/ha for FCB. Thus, the profitability of hybrid maize cultivation is not found attractive for the farmers during 2011-12 crop seasons due to low sale price during harvesting. However, the profitability of hybrid maize is heavily depended on the sale price of the harvested maize grain. Thus, hybrid maize cultivation is not attractive and its cultivation is found as **low value** cereal crop (Table.7).

VIII. Sugar crop

Sugarcane: Net-returns for sugarcane are estimated Tk.162848/ha for CCB and Tk.57437/ha for FCB. The profitability of Sugarcane cultivation is found attractive on CCB than FCB. However, Sugarcane is a long duration perennial crop, where more than 2 two high value cash crops can be accommodated during the Sugarcane cultivation period. On the other hand farmers can make more profit from sugarcane cultivation through making gur and intercropping with high value crops at early growing stage of the sugarcane. However, sugarcane cultivation is found as **moderately high value** long duration sugar crop (Table.7).

IX. Seed Production

Cost and return analysis for nine seed crops is conducted and findings are presented in Table.8 and seed crop-wise brief findings are described below:

Onion true seed: The higher net-return is estimated for Shuksagor variety of onion (Tk. 659210/ha) than Taherpuri variety of onion (Tk.49662/ha) under CCB. Similarly, the higher net-return is estimated for Shuksagor variety (Tk. 549352/ha) than Taherpuri variety (Tk. 428105/ha) under FCB. However, the profitability of Onion true seed production for both the varieties is found very attractive and thus, Onion true seed can be produced as **very high value** seed crop (Table.8).

Yard long bean seed: Net-returns of Kegornotika variety of yard long bean (String Bean) seed production are estimated Tk.121245/ha for CCB and Tk.69086/ha for FCB. Thus, yard long bean seed production is found as moderately profitable seed crop. Accordingly, seed production of Yard long bean is found as **moderately high value** seed crop (Table.8).

Spinach seed: Net-returns of local spinach seed production are estimated Tk. 81750/ha for CCB and Tk. 28041/ha for FCB. Thus, the profitability of Spinach seed production is found as low and not attractive for the seed producers. Accordingly, seed production of Spinach is found as **low value** seed crop for the seed producers (Table.8).

Bottle gourd seed: Net-returns of local variety of Bottle gourd seed production are estimated Tk.57642/ha for CCB and Tk.6072 for FCB. Thus, the profitability of Bottle gourd seed production is found as low and not attractive for the seed producers. Accordingly, seed production of Bottle gourd is found as **low value** seed crop for the seed producers (Table.8).

Ribbed gourd seed: Net-returns of local variety of Ribbed gourd seed production are estimated Tk.61914/ha for CCB and Tk.3791/ha for FCB. Thus, the profitability of Ribbed gourd seed production is found as low and not attractive for the seed producers. Accordingly, seed production of Ribbed gourd is found as **low value** seed crop for the seed producers (Table.8).

Gima Kolmi Seed: Net-returns of Gima Kolmi (Kang Kong) seed production are estimated Tk.61661/ha for CCB and Tk. 4577/ha for FCB. Thus, the profitability of Gima Kolmi seed production is found as low and not attractive for the seed producers. Accordingly, seed production of Gima Kolmi is found as **low value** seed crop for the seed producers (Table.8).

Indian Spinach Seed: Net-returns of Indian Spinach seed production are estimated Tk. 220538/ha for CCB and Tk.99281/ha for FCB. Thus, seed production of Indian Spinach is found as moderately profitable seed crop. Accordingly, seed production of Indian Spinach is found as **moderately high value** seed crop (Table.8).

Okra seed: Net-returns of BARI Dharosh 1 variety of Okra seed production are estimated Tk.71972/ha for CCB and Tk.18715/ha. Thus, the profitability of Okra seed production is found as low and not attractive for the seed producers. Accordingly, seed production of Okra is found as **low value** seed crop for the seed producers (Table.8).

Amaranth (Lalshak) Seed: Net-returns of BARI Lalshak 1 variety of Amaranth (Lalshak) are estimated Tk.120996/ha for CCB and Tk.82143/ha for FCB. Thus, seed production of Amaranth (Lalshak) is found as moderately profitable seed crop. Accordingly, seed production of Amaranth (Lalshak) is found as **moderately high value** seed crop (Table.8).

Economic crop categorization

Economic crop categorization was done on the basis of profitability of 62 involved crops giving especial emphasis on the net-returns under cash cost basis and full cost basis of the cost and return analysis. Thus, five levels of profitability were considered for this analysis and they are (a) Very high value crop, (b) High value crop, (c) Moderately high value crop, (d) Low value crop and (e) Very low value crop for this crop categorization. Accordingly, involved 62 crops were economically categorized under five levels of profitability, such as:

(I) **Very High Value Crop:** (1) Brinjal, (2) Mukhi Taro, (3) Loti Taro, (4) Plantain (Green Banana), (5) Tomato, (6) Pointed gourd, (7) Teasel gourd, (8) Papaya, (9) Banana, (10) Chili, (11) Onion true seed, (12) Winged Bean, (13) Elephant Foot ;

(II) **High Value Crop:** (1) Cabbage, (2) Cauliflower, (3) Radish, (4) Knolkhol, (5) Potato, (6) Green Papaya, (7) Bitter gourd (Large-Korola), (8) Cucumber, (9) Melon, (10) Watermelon, (11) Turmeric, (12) Country bean;

(III) **Moderately High Value crop:** (1) Amaranth (Lalshak), (2) Amaranth (Danta), (3) Indian Spinach, (4) Gima Kolmi, (5) Okra, (6) Sugarcane, (7), Indian Spinach Seed, (8) Amaranth (Lalshak) Seed, (9) Onion, (10) Yard long bean seed;

(IV) **Low Value crop:** (1) Spinach, (2) Bitter gourd (Small-Uchetta), (3) Pumpkin, (4) Bottle gourd, (5) Garlic, (6) Coriander, (7) Mung bean, (8) Chickpea, (9) Lentil, (10) Mustard, (11) Sesame, (12) Groundnut, (13) Jute, (14) Wheat, (15) Maize, (16) Spinach seed, (17) Bottle gourd seed, (18) Ribbed gourd seed, (19) Gima Kolmi Seed, (20) Okra seed; and

(V) **Very Low Value Crop:** (1) Yard long bean, (2) Turnip, (3) Ribbed gourd, (4) Snake gourd, (5) Sponge gourd, (6) Fennel, (7) wax gourd.

Economic crop categorization of the 62 crops is provided in Table 10.

Conclusion

On the basis of crop profitability assessment through using the economic crop categorization technique for the total of 62 involved crops, of which 13 crops were determined as very high value crop, 12 crops as high value crop, 10 crops as moderately high value crop, 20 crops as low value crop, 7 crops as very low value crop in 15 districts within USAID's Feed the Future (FtF) targeted 20 districts in southern regions of Bangladesh. Relevant cost and return data of this report will be useful for the implementation of various agriculture projects including agriculture value chain project of USAID in southern regions of the country

Recommendation

Cost and return analysis for most of the crops are grown in Bangladesh could be undertaken on regular basis with the relevant donor support and findings should be available as soft and hard copies for the benefit of extensionists, researchers, student, teachers, traders, exporters, farmers, policymakers, bureaucrats, project staffs and the relevant other users in the country.

Table.1.1: Summary cost and return analyses for 8 varieties of Brinjal in Chuadanga, Meherpur, Magura, Jessore, Bagerhat, Khulna, Satkhira, Barisal and Faridpur districts during 2011-2012

SL #	Crop	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Brinjal	Goal Ball	76.82	575,091	409,343	875,176	300,085	465,833	1.53	2.16	7.49	5.33	11.49
2	Brinjal	Kalo	71.11	512,621	357,056	893,947	381,326	536,891	1.76	2.54	7.21	5.02	12.66
3	Brinjal	Ireat	56.94	485,264	334,805	631,343	146,078	296,538	1.31	1.90	8.52	5.88	11.09
4	Brinjal	Irri	65.35	481,234	331,888	773,729	292,496	441,841	1.61	2.34	7.36	5.08	12.14
5	Brinjal	Chaga	73.13	539,762	373,830	854,461	314,699	480,631	1.57	2.27	7.38	5.11	11.75
6	Brinjal	Lafa	66.43	498,707	342,822	761,851	263,143	419,029	1.54	2.25	7.51	5.16	11.71
7	Brinjal	Kalo Shoila	64.88	474,527	313,738	738,755	264,227	425,017	1.55	2.37	7.31	4.84	11.67
8	Brinjal	Vangor	99.25	597,642	415,443	1,201,817	604,175	786,375	2.02	2.90	6.02	4.19	12.17

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on working capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Land rent, 8. Interest on working capital

1 USD= BD Taka 80.00 (14 December 2012)

Table.1.2: Summary cost and return analysis for Cabbage and Cauliflower and their varieties in Chuadanga, Meherpur, Jhenaidah, Satkhira, Jessore, Bagerhat, Khulna, Barisal and Faridpur districts during 2011-2012.

SL #	Crop	Variety	Yield (Nr/ha) (Head, Curd)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/Piece)		Sale Price (Tk/ Piece)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Cabbage	Tropic Sun	36750	203,346	147,018	318,356	115,010	171,337	1.58	2.19	5.53	4.00	8.67
2	Cabbage	Autumn Queen	35850	169,784	119,618	228,737	58,953	109,118	1.35	1.91	4.74	3.34	6.40
3	Cabbage	Green-60	36,075	185,804	135,608	280,532	94,728	144,923	1.51	2.08	5.15	3.76	7.80
4	Cabbage	K-KCross Winter	34,875	191,998	143,973	261,595	69,598	117,622	1.36	1.82	5.51	4.13	7.50
5	Cabbage	K-K Cross Summer	27750	206.344	156,089	380.230	173.886	224,141	1.86	2.48	7.44	5.62	13.80
6	Cabbage	Ball	34,875	199,336	142,643	278,436	79,100	135,793	1.40	1.96	5.72	4.09	8.00
7	Cabbage	621	36,375	190,158	136,688	244,942	54,783	108,254	1.29	1.79	5.23	3.76	6.75
8	Cauliflower	Tropic Sun	32250	187,818	127,802	336,369	148,551	208,567	1.78	2.61	5.82	3.96	10.40
9	Cauliflower	Snow-box	30000	180,501	114,335	317,358	136,857	203,023	1.78	2.81	6.02	3.81	10.60
10	Cauliflower	Conteser	30563	173,919	115,732	268,753	94,833	153,021	1.55	2.34	5.69	3.79	8.81
11	Cauliflower	Kashmir	28500	169,748	109,810	307,877	138,128	198,067	1.85	2.87	5.96	3.85	10.83
12	Cauliflower	Big Short	30000	189.935	123,574	284,424	94,489	160,849	1.51	2.32	6.33	4.12	9.50
13	Cauliflower	Marbell	33000	175,671	126,241	345,800	170,129	219,559	1.97	2.74	5.32	3.83	10.50
14	Cauliflower	White Short-33	31500	188,301	117,756	297,897	109,596	180,141	1.58	2.54	5.98	3.74	9.50
15	Cauliflower	White Short	29362	181,567	122,387	291,535	109,967	169,147	1.61	2.41	6.18	4.17	9.95

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on working capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Land rent, 8. Interest on working capital

1 USD= BD Taka 80.00 (14 December 2012)

Table.1.3: Summary cost and return analysis for Country Bean with 8 varieties and Yard Long Bean with a local variety in Kushtia, Magura, Jessore, Bagerhat, Khulna, Barisal and Gopalgonj districts during 2011-2012.

SL #	Crop	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Country Bean	Indian Black	39.00	311,808	211,966	389,212	77,403	177,246	1.26	1.85	8.00	5.44	10.00
2	Countrybean	Horina	27.00	268,214	181,319	329,708	61,493	148,389	1.23	1.82	9.93	6.72	12.25
3	Countrybean	Local	25.50	248,833	169,946	311,370	62,537	141,423	1.25	1.83	9.76	6.66	12.25
4	Countrybean	Kajla	30.00	275,102	188,207	306,879	31,777	118,672	1.12	1.63	9.17	6.27	10.25
5	Countrybean	Cutly	43.50	330,242	226,128	368,255	38,012	142,126	1.12	1.64	7.59	2.20	8.50
6	Countrybean	Kanduli	36.75	305,655	209,550	375,739	70,084	166,189	1.23	1.79	8.32	5.70	10.25
7	Countrybean	Rupbhan	40.32	385,769	255,171	510,467	124,698	255,296	1.32	2.01	9.57	6.33	13.00
8	Countrybean	Ireat	31.00	317,602	222,297	329,333	11,731	107,036	1.03	1.49	10.25	7.17	10.67
9	Yard Long Bean	Local	8.34	157,543	106,978	100,534	-57,009	-6,444	0.64	0.95	18.90	12.83	12.08

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on working capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Land rent, 8. Interest on working capital

1 USD= BD Taka 80.00 (14 December 2012)

Table.1.4: Summary cost and return analysis for Amaranth (Lalshak), Amaranth (Danta), Amaranth (Katua Danta) Spinach, Indian Spinach and Gima Kolmi in Chuadanga, Jhenaidah, Meherpur, Jessore, Kushtia, Bagerhat, Khulna, Barisal, Gopalgonj, Satkhira, Magura and Faridpur districts during 2011-2012.

SL #	Crop	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Amaranth (Lalshak)	Local	5.48	87,024	57,178	158,379	71,356	101,202	1.87	2.82	15.89	10.44	29.00
2	Amaranth (Lalshak)	Dingi	5.37	97,569	57,720	138,709	41,140	80,989	1.42	2.41	18.17	10.75	25.80
3	Amaranth (Lalshak)	RM	5.31	112,24	70,479	161,810	49,786	91,330	1.44	2.30	21.09	13.27	30.50
4	Amaranth (Danta)	Bashpata	16.83	119,900	82,204	174,771	54,871	92,566	1.46	2.13	7.13	4.89	6.50
5	Amaranth (Katua Danta)	Katua	25.86	95,858	56,257	138,357	42,499	82,100	1.47	2.58	3.71	2.18	5.38
6	Spinach	Local	8.18	103,651	63,465	97,544	-6,106	34,078	0.95	1.56	12.67	7.76	11.94
7	Indian Spinach	Local	20.89	148,116	94,970	161,355	13,238	66,385	1.09	1.70	7.09	4.55	7.75
8	Indian Spinach	LIV	20.21	149,395	99,715	177,216	27,821	77,502	1.19	1.79	7.39	4.93	8.79
9	Gima Kolmi	Kang Kong	26.63	158,646	97,575	265,712	107,066	168,137	1.69	2.76	5.96	3.66	10.00

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on working capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Land rent, 8. Interest on working capital

1 USD= BD Taka 80.00 (14 December 2012)

Table.1.5: Summary cost and return analysis of Radish, Turnip, KnolKhol, Taro (Mukhi), Taro(Loti), Potato, Wingedyam and Elephant foot with their varieties in Chuadanga, Meherpur, Jhenaidah, Magura, Jessore, Bagerhat, Khulna, Satkhira, Barisal, Kushtia and Faridpur districts during 2011-2012.

SL #	Crop	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Radish	Hybrid (Winter)	36.88	138,495	87,784	363,680	225,185	275,185	2.67	4.25	3.75	2.38	10.28
2	Radish	White Summer (F_1)	20.95	124,430	75,860	422,545	298,115	346,684	3.39	5.56	5.94	3.62	21.00
3	Turnip	Local	20.16	140,627	77,183	138,739	(1,887)	61,556	0.99	1.80	6.98	3.83	6.90
4	KnolKhol	Local	19.50	104,678	65,206	148,050	43,372	82,844	1.41	2.27	5.37	3.34	7.60
5	KnolKhol	Hybrid	21.15	110,835	72,417	154,737	43,901	82,319	1.41	2.15	5.24	3.42	7.33
6	Taro (Mukhi)	Aush (Satkhira)	23.63	313,073	201,006	413,164	100,090	212,157	1.32	2.06	13.25	8.51	17.50
7	Taro (Mukhi)	Aush (Kushtia)	20.25	376,901	260,867	463,312	86,410	202,444	1.23	1.79	18.61	12.88	23.25
8	Taro (Mukhi)	Aush (Jhenaidah)	25.61	313,034	210,140	443,851	130,818	233,711	1.42	2.12	12.22	8.20	17.25
9	Taro (Mukhi)	Aush (Chuadanga)	23.00	310,084	211,241	459,071	148,986	247,830	1.49	2.19	13.48	9.18	20.00
10	Taro (Mukhi)	Aush (Jessore)	23.00	320,530	218,580	4,79529	158,998	260,949	1.50	2.21	13.94	9.50	21.00
11	Taro (Mukhi)	Aush (Khulna)	20.00	263,803	180,629	459,070	195,267	278,441	1.77	2.58	13.19	9.03	23.33
12	Taro (Mukhi)	Amon (Chuadanga)	24.75	281,794	178,404	351,414	69,620	173,009	1.25	1.98	11.39	7.21	14.25
13	Taro (Mukhi)	Amon (Khulna)	19.58	272,868	183,661	322,447	49,579	138,786	1.18	1.75	13.94	9.38	16.50
14	Taro (Mukhi)	Amon (Bagerhat)	21.75	267,235	163,995	303,136	35,901	139,142	1.14	1.85	12.29	7.54	14.00
15	Taro (Mukhi)	Amon (Meherpur)	23.90	278,878	180,894	410,802	131,924	229,908	1.47	2.28	11.67	7.57	17.33
16	Taro (Loti)	Lotiraj	31.05	316,894	202,466	482,922	166,028	280,457	1.53	2.39	10.21	6.52	14.60
17	Potato	Katora	27.00	239,910	155,062	269,455	29,544	114,392	1.15	1.79	8.89	5.74	10.00
18	Potato	Diamont	27.64	218,637	154,139	321,421	102,783	167,282	1.47	2.11	7.91	5.58	11.64
19	Potato	Cardinal	28.96	251,208	184,743	332,627	81,419	147,882	1.34	1.83	8.67	6.38	11.52
20	Winged yam	Local	31.50	352,822	249,185	749,982	258,968	313,017	2.19	3.19	11.20	7.91	24.00
21	Elephant foot	Indian	31.92	462,429	361,696	700,154	237,725	338,457	1.52	1.95	14.48	11.33	22.14
22	Elephant foot	Local	20.37	396,884	308,940	582,591	185,707	273,649	1.48	1.90	19.48	15.17	28.70

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on w orking capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Land rent, 8. Interest on w orking capital

1 USD= BD Taka 80.00 (14 December 2012)

Table.1.6: Summary cost and return analysis for green Papaya, Platain (Green Banana), Tomato and Okra in Chuadanga, Jessore, Bagerhat and Jhenaidah districts during 2011-2012.

SL #	Crop	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Papaya (Green)	local	57.75	258,283	157,172	489,883	117,865	167,920	1.90	3.13	4.47	2.72	8.50
2	Plantain (Green Banana)[1/]	Local	3138	237,457	135,654	481,463	244,006	345,809	2.02	3.59	111.1	63.46	225.00[2/]
3	Tomato	Hybrid	59.17	268,184	165,601	592,134	323,950	426,533	2.18	3.62	4.53	2.80	9.58
4	Okra	Hybrid	20.90	171,486	105,775	269,592	98,105	163,817	1.59	2.58	8.21	5.06	13.00

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on w orking capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Landrent, 8. Interest on w orking capital

[1/] **= Yield in number of Bunches** [2/] **= Price in taka per bunch**

1 USD= BD Taka 80.00 (14 December 2012)

Table.1.7: Summary cost and return analysis of Pointed gourd, Bitter gourd (Large), Bitter gourd (Uchetta), Ribbed gourd, Teasel gourd, Snake gourd, Wax gourd, Cucumber, Pumpkin, Bottle gourd, Sponge gourd and their varieties in Chuadanga, Meherpur, Jessore, Jhenaidah, Faridpur, Satkhira, Magura, Jessore, Bagerhat, Khulna, Barishal, Gopalganj and Kushtia district during 2011-2012.

SL #	Crop	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Pointed Gourd	Local Green	40.74	299,280	185,245	566,496	267,217	381,251	1.89	3.07	7.35	4.55	14.07
2	Pointed Gourd	Local	38.74	299,019	189,861	550,705	251,686	360,844	1.83	2.96	7.72	4.90	14.17
3	Bitter Gourd	Hybrid	28.28	245,260	173,838	337,733	92,473	163,895	1.39	1.98	8.67	6.15	12.03
4	Bitter Gourd	Local	17.27	217,505	145,482	210,295	-7210	64,813	0.97	1.46	12.60	8.43	12.24
5	Bitter Gourd (Uchetta)	Local	8.56	155,731	95,172	170,904	16,341	75,731	1.13	1.86	18.19	11.11	20.00
6	Ribbed Gourd	Hybrid	22.23	181,209	124,660	176,177	-5032	51516	0.97	1.42	8.15	5.61	7.94
7	Ribbed Gourd	Local	19.16	164,043	105,175	155,254	-8,789	50,080	0.95	1.49	8.56	5.49	8.13
8	Teasel Gourd	Local	34.50	289,933	206,296	499,988	210,055	293,692	1.72	2.43	8.40	5.98	14.50
9	Snake Gourd	Local	19.35	147,080	100,515	142,736	-4,343	42,220	0.98	1.43	7.60	5.19	7.80
10	Snake Gourd	Hybrid	24.15	145,399	100,299	147,676	2,277	47,377	1.04	1.58	6.02	4.15	6.13
11	Waxgourd[1/]	Hybrid	10680	169,807	113,733	159,697	-10111	45,964	0.96	1.42	15.90	10.65	15.00
12	Waxgourd[1/]	Local	9581	154,814	104,442	137,590	-17224	33,148	0.89	1.33	16.16	10.90	11.50
13	Cucumber	Hybrid	32.76	198,965	137,551	366,401	167,436	228,850	1.84	2.67	6.07	4.20	11.29
14	Cucumber	Local	33.04	207,584	142,833	359,542	151,958	216,708	1.72	2.52	6.28	4.32	10.80
15	Pumpkin	Hybrid	9.25	113,178	66,344	143,626	30,447	77,282	1.26	2.17	12.24	7.17	15.67
16	Bottle Gourd[1/]	Hybrid	**15300**	157,121	107,773	193,783	36,661	86,009	1.24	1.80	10.27	7.04	12.70
17	SpongeGourd	Local	23.85	177,532	120,383	140,615	-36,917	20,232	0.79	1.17	7.44	5.05	5.92
18	SpongeGourd	Hybrid	34.05	186,289	117,787	173,349	-12,940	55,562	0.93	1.47	5.47	3.46	5.10

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on working capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Landrent, 8. Interest on working capital

[1/] **= Yield in Number of Pieces,** [2/] **= Price in Taka per Piece**

1 USD= BD Taka 80.00 (14 December 2012)

Table.2: Summary cost and return analysis for Banana, Papaya, Melon, and Watermelon and their varieties in Chuadanga, Meherpur, Magura, Jhenaidah, Khulna, Kushtia, Faridpur, Barisal, Bhola and Patuakhali districts during 2011-2012.

SL #	Crop	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Papaya	Hybrid (Magura)	66.00	300,997	194,547	535,915	234,918	341,368	1.82	2.82	4.56	2.95	8.17
2	Papaya	Hybrid (Faridpur)	69.00	309,032	193,072	504,978	195,945	311,906	1.64	2.63	4.48	2.80	7.33
3	Papaya	Local (Jhenaidah)	57.75	258,283	157,172	489,883	117,865	167,920	1.90	3.13	4.47	2.72	8.50
4	Papaya	Local (Magura)	57.94	336,629	239,973	581,573	244,943	341,599	1.76	2.53	5.81	4.14	10.13
5	Melon[1/]	Lalmi	22688	149,100	79,715	305,943	156,844	226,228	2.05	3.82	6.57	3.51	13.50[2/]
6	Banana[1/]	Sobri	2436	229,665	130,579	601,007	371,342	470,428	2.62	4.64	94.29	53.61	243.08[2/]
7	Banana[1/]	Rongin Sagor	2330	229,090	122,280	377,330	148,240	255,050	1.65	3.09	98.34	52.49	161.88[2/]
8	Banana[1/]	Champa	2070	219,681	118,837	399,092	179,411	280,254	1.82	3.37	106.1	57.41	193.00[2/]
9	Watermelon[1/]	Hybrid	3916	129,304	85,617	204,045	74,742	118,428	1.58	2.41	33.01	21.86	51.89[2/]
10	Watermelon[1/]	Bigfamily	8953	180,608	119,415	262,551	81,943	143137	1.47	2.22	20.17	13.34	2938
11	Watermelon[1/]	Glory	8276	169,290	106,280	258,212	88921	151,932	1.57	2.49	20.45	12.84	31.34
12	Watermelon[1/]	All Queen	9363	158,505	104,539	283,601	125,096	179,062	1.80	2.72	16.93	11.17	30.33
13	Watermelon[1/]	Bestin	8,812	171,056	107,839	263,841	92,785	156,002	1.54	2.45	19.41	12.24	30.00
14	Watermelon[1/]	Asia-2	8,587	180,408	113,721	266,273	85,866	152,552	1.52	2.39	21.01	13.24	31.15
15	Watermelon[1/]	Campion	8,137	167,197	102,246	275,630	108,432	173,384	1.69	2.77	20.55	12.56	34
16	Watermelon[1/]	Black Master	9,000	176,838	111,308	251,490	74,653	140,183	1.42	2.26	19.65	12.37	28

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on working capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Landrent, 8. Interest on working capital

[1/] = Yield in Number of bunches / Pieces, **[2/] = Price in Taka per bunch / Piece**

1 USD = BD Taka 80.00 (14 December 2012)

Table.3: Summary cost and return analysis for Chilli, Garlic, Onion, Coriander, Turmeric and Fennel and their varieties in Chuadanga, Meherpur, Jhenaidah, Magura, Jessore, Bagerhat, Satkhira, Khulna and Faridpur districts during 2011-2012.

SL #	Crop	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Chili	Zia	7.61	282,746	154,761	484,083	201,337	329,321	1.72	3.16	37.14	20.33	63.75
2	Chili	Local	8.50	388,816	247,327	538,410	149,594	291,083	1.43	2.40	45.74	29.10	63.33
3	Chili	Patakandy	8.85	301,252	172,325	529,927	228,676	357,602	1.76	3.08	34.04	19.47	60.00
4	Chili	Bagura	6.90	280,346	158,361	440,109	159,763	281,748	1.56	2.77	40.63	22.95	65.00
5	Chili	Magura	9.49	327,334	195,800	624,557	297,224	428,756	1.91	3.21	34.48	20.63	65.95
6	Fennel	Local	1.05	94,793	50,374	104,788	3,419	24,825	1.10	2.11	90.28	47.98	100.00
7	Garlic	Local	7.85	156,223	96,285	186,647	30,424	90,363	1.20	1.96	19.90	12.27	23.83
8	Turmeric	Local	20.16	262,796	149,023	301,340	38,544	152,317	1.15	2.02	13.04	7.39	15.00
9	Turmeric	Makhalbari	20.78	275,804	167,778	410,544	134,740	242,765	1.49	2.44	13.28	8.08	18.88
10	Onion (Seedling-Bulb method)	Taherpuri	17.40	217,174	141,259	292,820	75,646	151,561	1.34	2.07	12.48	8.12	16.96
11	Onion (Direct seeded method)	Shuksagor	31.56	305,205	214,946	360,750	55,544	145,803	1.18	1.69	9.67	6.81	11.46
12	Onion (Set-Bulb method)	Taherpuri	18.85	257.080	190,797	286.261	29.181	95,464	1.12	1.53	13.64	10.12	14.05
13	Coriander	Local	1.25	59,066	28,846	68,611	9545	39765	1.16	2.38	47.25	23.08	40.00

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on working capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Landrent, 8. Interest on working capital

1 USD = BD Taka 80.00 (14 December 2012)

Table.4: Summary cost and return analysis for Mung bean, Chickpea and Lentil with their varieties in Chuadanga, Meherpur, Jhenaidah, Jessore, Bagerhat, Satkhira, Barisal and Faridpur districts during 2011-2012.

SL #	Crop	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Mung bean	BARI Mung 6	1.62	89,725	48,799	101,017	11,292	52,218	1.14	2.12	55.32	30.09	63.00
2	Mung bean	BARI Mung 4	1.39	80,363	41,631	95,058	14,695	53,426	1.19	2.31	57.92	30.00	68.75
3	Chickpea	Local	1.99	64.687	36,620	100.371	35.684	63,752	1.56	2.77	32.55	18.42	50.67
4	Lentil	Local	1.50	72.168	31,583	104,200	32,032	72,616	1.46	3.35	48.11	21.06	68.21
5	Lentil	Indian	1.64	75,290	34,141	112,422	37,132	78,281	1.50	3.33	45.84	20.79	66.50

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on w orking capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Landrent, 8. Interest on w orking capital

1 USD = BD Taka 80.00 (14 December 2012)

Table.5: Summary on cost and return analysis for Mustard, Sesame and Groundnut with their varieties in Chuadanga, Meherpur, Narail, Jessore, Bagerhat, Khulna, Satkhira, Barisal, Madaripur and Faridpur districts during 2011-2012.

SL #	Crop	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Mustard	Local	1.65	67,119	32,017	89,116	21,998	57,099	1.32	2.77	40.68	19.40	53.50
2	Mustard	HYV	2.16	92,265	46,425	87,554	-4,742	41,129	098	1.95	42.80	21.53	41.25
3	Mustard	Rai	1.75	69,128	34,885	76,969	7,841	42,084	1.12	2.23	39.50	19.93	44.33
4	Sesame	Local	1.63	64,936	30,757	74,749	9,812	43,991	1.15	2.44	39.96	18.93	43.67
5	Sesame	Art Shiral	1.81	68,063	29,767	80,784	12,721	51,017	1.19	2.80	37.66	16.47	43.00
6	Sesame	White	1.63	62,613	29,591	70,981	8,368	41,390	1.13	2.39	38.53	18.21	41.67
7	Sesame	Kattil	1.76	71,929	36,755	76,813	4,884	40,058	1.07	2.10	40.81	20.85	41.25
8	Groundnut	Local	2.59	95,267	53,696	140,715	45,448	87,019	1.48	2.64	36,82	20.75	54.50

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on w orking capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Landrent, 8. Interest on w orking capital

1 USD = BD Taka 80.00 (14 December 2012)

Table.6: Summary cost and return analysis for Tossa (*Corchorus olitorius* L.) and Deshi (*Chorchorus capsularis* L.) species of Jute in Jhenaidah, Faridpur, Satkhira, Chuadanga, Kushtia, Meherpur, Madaripur, Magura and Bagerhat districts during 2011

SL #	Crop	Variety	District	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/kg)		Sale Price (Tk/Kg)
					FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Jute	Tossa	Jhenaidah	3.47	124,731	59,732	121,606	-3,124	61,874	0.98	2.05	36.00	17.24	30.30
2	Jute	Tossa	Faridpur	3.95	129,331	59,618	172,318	42,987	112,699	1.34	2.92	32.74	15.09	41.11
3	Jute	Tossa	Chuadanga	3.42	116,149	61,483	130,236	14,088	68,752	1.19	2.26	33.96	17.98	31.90
4	Jute	Tossa	Satkhira	3.53	123,857	70,920	127,991	4,134	57,070	1.04	1.85	35.14	20.12	30.00
5	Jute	Tossa	Kushtia	3.90	142,258	71,182	117,138	-25,120	45,955	0.82	1.65	36.52	18.28	25.00
6	Jute	Tossa	Meherpur	3.40	127.039	58,602	122,652	-4,387	64,049	0.97	2.12	37.36	17.24	30.67
7	Jute	Tossa	Madaripur	3.75	128,181	66,036	152,267	24,086	86,230	1.19	2.31	34.18	17.61	38.00
8	Jute	Tossa	Bagerhat	3.40	134,027	52,842	126,893	-7,134	74,051	0.97	2.40	39.42	15.54	31.50
9	Jute	Tossa	Magura	3.90	124,003	60,561	130,910	6,907	70,349	1.06	2.20	31.80	15.53	29.50
10	Jute	Deshi	Faridpur	3.77	137,392	65,063	160,357	22,965	95,293	1.18	2.51	36.46	17,26	39.67

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%), 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on w orking capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Landrent, 8. Interest on w orking capital

1 USD= BD Taka 80.00 (14 December 2012)

Table.7: Summary cost and return analysis for Maize, Wheat and Sugarcane crops and their varieties in Chuadanga, Jhenaidah, Satkhira, Barisal and Faridpur districts during 2011-2012.

SL #	Crop	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Sugarcane	B-28	87.30	203,934	98,523	261,371	57,437	162,848	1.28	2.66	2.34	1.13	3.00
2	Wheat	Shatabdi	4.50	86,490	47,172	89,818	3,328	42,646	1.05	1.95	19.22	10.48	20.00
3	Maize	Hybrid	8.23	107,660	60,611	111,025	-2456	50,414	1.03	1.83	13.08	7.36	12.81

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on w orking capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Landrent, 8. Interest on w orking capital

1 USD= BD Taka 80.00 (14 December 2012)

Table.8: Summary cost and return analysis for seed production of Yard Long Bean, Spinach, Bottle Gourd, Ribbed gourd, Gima Kolmi, Indian Spinach, Okra, Amaranth (Lalshak) and Onion (true seed) with their varieties in Meherpur districts during 2011-2012.

SL #	Crop (Seed)	Variety	Yield (t/ha)	Total Cost (Tk/ha)		Gross return (Tk/ha)	Net return (Tk/ha)		Cost Benefit Ratio		Production Cost (Tk/kg)		Sale Price (Tk/Kg)
				FCB	CCB		FCB	CCB	FCB	CCB	FCB	CCB	
1	Yard Long Bean Seed	Kegornotika	2.14	192,696	140,537	261,783	69,086	121,245	1.35	1.86	90.15	65.75	122.50
2	Spinach Seed	Local	2.95	99,451	45,742	127,492	28,041	81,750	1.28	2.80	33.71	15.51	43.33
3	Bottle Gourd Seed	Local	1.24	154,478	102,907	160,550	6,072	57,642	1.04	1.56	124.8	83.16	130.00
4	Ribbed Gourd Seed	Local	1.15	147,278	89,156	151,069	3,791	61,914	1.03	1.77	128.1	77.53	131.67
5	Gima Kolmi Seed	Kang Kong	1.20	115,181	58,096	119,757	4,577	61,661	1.04	2.08	95,98	48.41	100.00
6	Indian Spinach Seed	Local	2.03	304,901	183,644	404,182	99,281	220,538	1.32	2.20	150.6	90.69	200.00
7	Okra Seed	BARI Dharosh 1	1.43	123,497	70,240	142,212	18,715	71,972	1.15	2.03	86.66	49.29	100
8	Amaranth (Lalshak) Seed	BARI Lalshak 1	1.45	93,740	55,148	176,143	82,403	120,996	1.88	3.20	64.65	38.03	121.67
9	Onion True Seed	Shuksagor	0.67	516,491	406,632	1065,842	549,352	659,210	2.10	2.69	773.8	609.2	1600.00
10	Onion True Seed	Taherpuri	0.62	287,946	219,429	716,050	428,105	496,621	2.50	3.28	465.4	354.6	1183.33

A. Cash cost basis (CCB) includes: 1. Land preparation, 2. Labour (50%) 3. Seed, 4. Fertilizer, 5. Pesticide, 6. Irrigation, 7. Interest on w orking capital

B. Full cost basis (FCB) includes: 1. Land preparation, 2. Seed, 3. Fertilizer, 4. Pesticide, 5. Irrigation, 6. Labour (100%), 7. Landrent, 8. Interest on w orking capital

1 USD= BD Taka 80.00 (14 December 2012)

Table.9: List of involved crop(s) under nine crop types

Crop type	Crops Name	Crop type	Crops Name
I. Vegetable crops	Brinjal	II. Fruits	Papaya
	Cabbage		Melon
	Cauliflower		Banana
	Country bean		Watermelon
	Yard long bean	Total	4
	Amaranth (Lalshak)	III. Spices	Chili
	Amaranth (Danta)		Fennel
	Spinach		Garlic
	Indian Spinach		Turmeric
	Gima Kolmi		Onion
	Radish		Coriander
	Turnip	Total	6
	Knolkhol	IV. Pulses	Mung bean
	Mukhi Taro		Chickpea
	Loti Taro		Lentil
	Potato	Total	3
	Green Papaya	V. Oil Seeds	Mustard
	Plantain (Green Banana)		Sesame
	Tomato		Groundnut
	Okra	Total	3
	Pointed gourd	VI. Fibre Crop	Jute:
	Bitter gourd (Large-Korola)	Total	1
	Bitter gourd (Small-Uchetta)	VII. Cereal Crops	Wheat
	Ribbed gourd		Maize
	Teasel gourd	Total	2
	Snake gourd	VIII. Sugar crop	Sugarcane
	Cucumber	Total	1
	Pumpkin	IX. Seed Production	Onion true seed
	Bottle gourd		Yard long bean seed
	Sponge gourd		Spinach seed
	Wax gourd		Bottle gourd seed
	Winged bean		Ribbed gourd seed
	Elephant foot		Gima Kolmi Seed
			Indian Spinach Seed
			Okra seed
			Amaranth (Lalshak) Seed
Total 33		Total	9
		Grand Total	62

Table.10: Economic crop categorization of the involved 62 crops

SL #	Category	Crops	Crops (Nr.)
I	Very High Value Crop	(1) Brinjal, (2) Mukhi Taro, (3) Loti Taro, (4) Plantain (Green Banana), (5) Tomato, (6) Pointed gourd, (7) Teasel gourd, (8) Papaya, (9) Banana, (10) Chili, (11) Onion true seed, (12) Winged Bean, (13) Elephant Foot	13
II	High Value Crop	(1) Cabbage, (2) Cauliflower, (3) Radish, (4) Knolkho, (5) Potato, (6) Green Papaya, (7) Bitter gourd (Large-Korola), (8) Cucumber, (9) Melon, (10) Watermelon, (11) Turmeric, (12) Country bean	12
III	Moderately High Value Crop	(1) Amaranth (Lalshak), (2) Amaranth (Danta), (3) Indian Spinach, (4) Gima Kolmi, (5) Okra, (6) Sugarcane, (7), Indian Spinach Seed, (8) Amaranth (Lalshak) Seed, (9) Onion, (10) Yard long bean seed	10
IV	Low Value Crop	(1) Spinach, (2) Bitter gourd (Small-Uchetta), (3) Pumpkin, (4) Bottle gourd, (5) Garlic, (6) Coriander, (7) Mung bean, (8) Chickpea, (9) Lentil, (10) Mustard, (11) Sesame, (12) Groundnut, (13) Jute, (14) Wheat, (15) Maize, (16) Spinach seed, (17) Bottle gourd seed, (18) Ribbed gourd seed, (19) Gima Kolmi Seed, (20) Okra seed	20
V	Very Low Value Crop	(1) Yard long bean, (2) Turnip, (3) Ribbed gourd, (4) Snake gourd, (5) Sponge gourd, (6) Fennel, (7) wax gourd	7
Total			**62**