

Supplementary Table 1 Technological interventions of KVKs in Karnataka leading to higher income of farm households during 2017–21

| Sector              | Technological interventions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Field crops         | Introduction of improved varieties of paddy viz., Gangavathi Sona, RNR-15048, MAS-26, KHP 13, KKP-5, direct seeding of rice (DSR), mechanical sowing and integrated crop management practices. Introduction of new varieties of finger-millet (ML-365, KMR-340, 630 and MR-6), sorghum (SPV-2217) and foxtail-millet (DHFt-109-3). Integrated pest management (IPM) of fall armyworm in maize. Introduction of new pigeonpea varieties viz., BRG-3, 4, 5, GRG-811, TS3R, BSMR-736 and its intercropping in maize. Introduction of sugarcane variety VCF-517, adoption of nutrient management practices and biological control of root grub. Promotion of a new groundnut varieties GPBD-4, G2-52, DH-256, ICGV-03043, K-6, KDG-128 and cultivation of groundnut in paddy fallows. Introduction of new varieties of chickpea (JAKI-9218 and BGD 111-1), greengram (DGGV-2, BGS-9), blackgram (LBG791), horsegram (PHG-9, CRIDA-18), safflower (PBNS-12), sunflower (KBSH 53, RFSH 1887) and soybean (DSb-21). Promotion of micronutrient and pest management in cotton. Promotion of intercropping in sugarcane, cotton, maize, pigeonpea and groundnut. Adoption of dryland production technologies such as compartment bunding, seed hardening/treatment with CaCl <sub>2</sub> and farm pond supported protective irrigation, improved pulses production technologies such as pulse-magic and nipping. |
| Horticultural crops | Introduction of new varieties/hybrids of chilli (Aka Kyathi and Arka Haritha), weed management and bio-intensive pest/disease management. Introduction of new hybrids of tomato (Arka Rakshak and Arka Abhed) and integrated pest/disease management practices. Promotion of new varieties of frenchbean (Arka Arjun, Sharat and Suvidha). Nutrient management in coconut to reduce nut dropping. Banana disease management and foliar nutrition. Nutrient and disease management in arecanut and arecanut husk decomposition. Mango pest disease management and mango-special as micronutrient supplement. Introduction of new onion varieties (Bhima Super and Bhima Shakti) and management of pests and diseases. Ginger rhizome rot management. Introduction of a new turmeric variety Pratibha and its processing at farm level for value addition. Promotion of new varieties of ridgegourd (Arka Prasan), okra (Arka Nikitha) and tuberose (Arka Prajwal)                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Animal husbandry    | Promotion of balanced nutrition, area specific mineral mixture and clean milk production practices in dairy animals. Promotion of fodder varieties DHN-6, CoFS-29, 30, 31 Co-3, 4 and 5 and fodder seed production units. Introduction of breeds of backyard poultry (Swarnadhara), low-cost incubation, hatchery units and feed supplementation with azolla. Cost-efficient nutrition management with locally prepared feed formulations. Semi-intensive and intensive sheep and goat farming and micronutrient supplementation and deworming practices.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Farm and non-       | Seed production of cereals, pulses, oilseeds and fodder crops. Horticultural nursery for seedlings of fruits,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|                  |                                                                                                                                                                                                                                                                                                                          |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| farm enterprises | plantation, and vegetable crops. Mulberry cultivation and silkworm rearing for cocoon production. Bee keeping for honey production and its value addition. Millet processing and value addition. Value addition to Plate, direct and digital marketing strategies. Custom hiring of farm machinery and coconut climbing. |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Supplementary Table 2 Scaling up and diversification matrix

| Shift in area                                           | Number and percentage of farmers |                 |                  |                               |
|---------------------------------------------------------|----------------------------------|-----------------|------------------|-------------------------------|
|                                                         | Agriculture                      | Horticulture    | Animal husbandry | Farm and non-farm enterprises |
| Increased area                                          | 493<br>(13.51)                   | 1269<br>(34.79) | 1411<br>(38.68)  | 542<br>(14.86)                |
| Started new crops                                       | 48<br>(1.32)                     | 577<br>(15.82)  | 506<br>(13.87)   | 316<br>(8.66)                 |
| Decreased or discontinued existing crops and activities | 1225<br>(33.58)                  | 157<br>(4.30)   | 132<br>(3.62)    | 13<br>(0.36)                  |

Supplementary Table 3 Crop wise overall change in no. of growers, area and productivity

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|                         |     |     |        |         |         |        |        |        |        |
|-------------------------|-----|-----|--------|---------|---------|--------|--------|--------|--------|
| Sorgum/maize/bajra      | 11  | 23  | 109.09 | 19.5    | 19      | -2.56  | 50.87  | 266.11 | 423.14 |
| Other fodder crops      | 18  | 54  | 200.00 | 14.55   | 47.5    | 226.46 | 327.56 | 750.65 | 129.16 |
| <i>Commercial crops</i> |     |     |        |         |         |        |        |        |        |
| Sugarcane               | 470 | 537 | 14.26  | 1582.38 | 1868.21 | 18.06  | 391.77 | 547.64 | 39.79  |
| Cotton                  | 309 | 317 | 2.59   | 935.28  | 978.79  | 4.65   | 7.39   | 10.11  | 36.72  |

*Horticultural crops*

| Crop                         | Change in no. of growers |         | %      | Change in area |         | %      | Change in productivity |         | %     |
|------------------------------|--------------------------|---------|--------|----------------|---------|--------|------------------------|---------|-------|
|                              | 2016–17                  | 2020–21 |        | 2016–17        | 2020–21 |        | 2016–17                | 2020–21 |       |
| Mango                        | 177                      | 199     | 12.43  | 1555.35        | 1718.5  | 10.49  | 14.91                  | 22.08   | 48.04 |
| Banana                       | 221                      | 407     | 84.16  | 3977.55        | 6355.59 | 59.79  | 10.46                  | 13.89   | 32.73 |
| Grapes                       | 42                       | 53      | 26.19  | 117.84         | 163.18  | 38.48  | 89.72                  | 161.70  | 80.23 |
| Papaya                       | 39                       | 93      | 138.46 | 94.4           | 209.88  | 122.33 | 140.31                 | 262.06  | 86.76 |
| Pomegranate                  | 80                       | 105     | 31.25  | 380.96         | 495.965 | 30.19  | 42.75                  | 49.04   | 14.72 |
| Cashew                       | 28                       | 50      | 78.57  | 50.95          | 122.9   | 141.22 | 2.22                   | 3.67    | 65.08 |
| Sapota                       | 24                       | 30      | 25     | 389.38         | 394.33  | 1.27   | 5.69                   | 7.42    | 30.41 |
| Potato                       | 32                       | 50      | 56.25  | 53.5           | 73.05   | 36.54  | 73.11                  | 94.40   | 29.13 |
| Tomato                       | 272                      | 388     | 42.65  | 354.7          | 467.9   | 31.95  | 175.19                 | 232.80  | 32.88 |
| Peas/garden pea/field pea    | 16                       | 27      | 68.75  | 12.45          | 18.2    | 46.18  | 29.86                  | 32.03   | 7.30  |
| Onion/White onion/Rose onion | 223                      | 297     | 31.42  | 469.3          | 571.2   | 21.71  | 68.86                  | 101.83  | 47.88 |
| Beans/French beans           | 59                       | 118     | 100    | 56.4           | 106.9   | 89.53  | 55.51                  | 65.95   | 18.80 |
| Carrot                       | 8                        | 13      | 62.50  | 8.5            | 12.75   | 50.00  | 51.41                  | 45.34   | 11.81 |
| Cabbage                      | 27                       | 60      | 122.22 | 32.8           | 71.65   | 118.45 | 105.30                 | 140.36  | 33.29 |
| Okra                         | 11                       | 28      | 154.55 | 5.375          | 19.55   | 263.72 | 55                     | 50.55   | -8.08 |
| Cauliflower                  | 11                       | 16      | 45.45  | 22.55          | 29.5    | 30.82  | 87.89                  | 119.86  | 36.37 |
| Cucumber                     | 18                       | 25      | 38.39  | 12.25          | 19.6    | 28.52  | 127.37                 | 158.05  | 24.09 |

|                     |     |     |        |       |       |        |       |       |        |
|---------------------|-----|-----|--------|-------|-------|--------|-------|-------|--------|
| Brinjal             | 48  | 83  | 72.92  | 44.1  | 71.43 | 61.96  | 74.25 | 97.47 | 31.27  |
| Bottle gourd/ Ghiya | 9   | 12  | 33.33  | 9.5   | 13.45 | 41.58  | 72.34 | 80.86 | 11.77  |
| Bittergourd         | 10  | 24  | 140.00 | 9.65  | 22.8  | 136.27 | 60.00 | 82.30 | 37.17  |
| Marigold            | 38  | 77  | 102.63 | 57.4  | 99.9  | 74.07  | 52.62 | 69.88 | 32.79  |
| Chrysanthemum       | 48  | 78  | 62.50  | 48    | 71.2  | 48.33  | 26.90 | 53.84 | 100.18 |
| Coconut (No.)       | 623 | 642 | 3.05   | 5590  | 5261  | -5.89  | 553   | 840   | 51.95  |
| Arecanut            | 598 | 639 | 6.86   | 2372  | 4622  | 94.88  | 5.62  | 5.57  | -0.96  |
| Coffee              | 146 | 148 | 1.37   | 711.2 | 701.5 | -1.36  | 11.38 | 15.42 | 35.55  |