

Average income of farmers

2242. SHRI RAM KUMAR KASHYAP: Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) the details of new technologies which are being developed for agricultural advancement and doubling the income of farmers in the next five years;

(b) the targets set/achieved so far;

(c) whether the average farm household in the country earns less than ₹ 6,500 a month from all sources of income, if so, the details thereof, and whether this amount is sufficient for a family to survive, if so, the details thereof; and

(d) whether Government has any plans/schemes to support the farming community, if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE (SHRI PARSHOTTAM RUPALA): (a) and (b) Research and Development is a continuous process, in this endeavor, Indian Council of Agricultural Research (ICAR) has achieved to develop following technologies during the last three years. The list of the technologies developed is appended as Statement-I (*See below*).

- (i) 142 technologies related to farm mechanization, post harvest processing and value added of agro produce developed for maintaining timeliness of operations, and reducing farm inputs, drudgery and post harvest losses.
- (ii) 596 high yielding, climate resilient crop varieties/hybrids of field crops released for cultivation in different agro-ecologies of the country.
- (iii) 140 improved varieties and hybrids of different Horticultural crops were developed.
- (iv) 52 new technologies under Natural Resources management were developed.
- (v) 17 new breeds were registered in animal sciences,.
- (vi) 24 new improved breeding technologies for fish production were developed.

(c) and (d) National Sample Survey Office (NSSO) conducted Situation Assessment Survey (SAS) of Agricultural Households during NSS 70th round (January, 2013-December 2013) in the rural areas of the country for the reference period of the agricultural year July 2012-June 2013. The survey collected the details of income generated by the agricultural households during the agricultural year July 2012-June 2013 from different economic activities. As per the results obtained from the said survey, the average monthly income per agricultural household during July 2012-June 2013 was estimated at ₹ 6426. State-wise details are given in Statement-II (*See below*).

The average monthly income per agricultural household is low hence during the last two years, the strategy of the Government is to focus on farmers' welfare by making farming viable. Farm viability is possible, when cost of cultivation is reduced, yields per unit of farm are increased and farmers get remunerative prices on their produce. The Government is realigning its interventions to move from production-centric to farmers' income centric platform. In order to realise net positive returns for the farmer, reducing cost of cultivation/production assumes importance, schemes and initiatives as follows, are being promoted and implemented in a major way towards this. The details of schemes are given in Statement-III (*See below*).

- (i) Soil Health Card (SHC) scheme
- (ii) Neem Coated Urea (NCU)
- (iii) Paramparagat Krishi Vikas Yojana (PKVY)
- (iv) Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)
- (v) National Agriculture Market scheme (e-NAM)
- (vi) Pradhan Mantri Fasal Bima Yojana (PMFBY)
- (vii) Interest subvention on short-term crop loans
- (viii) Minimum Support Price (MSP)
- (ix) Other centrally sponsored schemes *viz.* National Food Security Mission (NFSM); Mission for Integrated Development of Horticulture (MIDH); National Mission on Oilseeds and Oil Palm (NMOOP); National Mission for Sustainable Agriculture (NMSA); National Mission on Agricultural Extension and Technology (NMAET) and Rashtriya Krishi Vikas Yojana (RKVY)
- (x) Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)
- (xi) Mahila Kisan Sashaktikaran Pariyojana (MKSP).

Statement-I

Details of the technologies developed by DARE/ICAR during the last 3 years:

- (a) Technologies developed for farm mechanization, processing and value addition of agro-produce farm implements, machines and technologies**
- Nitrogen dose estimation for top dressing in wheat and rice crop
 - Animal drawn 3-row garlic planter
 - Animal drawn garlic digger
 - Single bud sett cutting machine for sugarcane
 - Mechanized system for sugarcane budsett / bud chip treatment

- Manually guided power weeder
- Harvesting knife for oil palm
- Yield monitoring system for soyabean-wheat cropping system
- Hearing impairment of tractor drivers
- Establishment of farm machinery bank at Gaildubba village of Chindwara district
- GPS based variable rate granular fertilizer applicator for basal dose application
- Spectral reflectance based prototype of variable rate urea application system for top dressing in rice and wheat crops
- Pre-emergence herbicide strip applicator
- Mechanization status of selected cropping pattern in Madhya Pradesh
- Economic evaluation and impact assessment of selected farm equipment
- Seed-cum-fertilizer drill with two stage fertilizer placement
- Multi-millet planter
- Three-row harvester for grain sorghum
- Three row automatic vegetable transplanter for potted seedlings
- Mechanical intra and inter row weeder for wide spaced deep rooted field crops
- Package of animal operated implements for different cropping systems in Madhya Pradesh
- Online database for anthropometric and strength data bank
- Hand held vegetable transplanter
- PTO driven automatic total mix ration (TMR) delivery system for cattle
- Promotion of climate smart farm machinery in village Kacchi Barkheda
- Image based herbicide application system
- Lifting device for sick animals
- Zero-till planter-cum-residue mulcher for maize-wheat cropping system
- Horizontal bio-reactor for generation of bio-char from crop residues
- SPV based refrigeration system for storage of horticultural crops (6-7 tonne)
- Hot water treatment chamber and ripening chamber for fruits
- Bioreactor for accelerated composting of biomass
- Pilot plant for production of biochar from crop residue (500 kg. capacity)
- Cook stoves on biomass briquettes

- Briquetting of jute sticks
- Solar powered knapsack sprayer (3 nozzle)
- Energetic of soyabean-wheat cropping system of Hoshangabad district, MP
- Briquette based cookstove for thermal application
- Moringa leaf stripper
- Prototype for preparation of pro-biotic soya cheese
- Technology for products like composite flour eggless cake, multi-grain laddu, multi-grain tortillas chips
- Machine vision protocols/software for distinguishing among crop varieties
- Blending of millet flour with hydrocolloid for quality breads
- Complete mechanization package for banana central core
- Package of equipment for making rope from banana outer sheet
- Ultrasonic sensor based spraying system for orchards
- Microcontroller based automatic variable rate fertilizer applicator
- Microcontroller based sugarcane bud cutting and planting technology
- Tractor operated check basin former
- Tractor operated mulch cum drip laying cum seedling planter
- Tractor operated system for controlled level puddling
- Tractor drawn turmeric rhizome planter
- Paddy transplanter as an attachment to four wheel drive tractor
- 3 Row tractor operated sorghum harvester
- Tractor operated fertilizer dibbler for ratoon sugarcane and tractor operated small seed planter
- Bullock drawn Stubble collector
- Bullock drawn Farm Yard manure spreader
- Bullock drawn Two row, three row and four row Seed drill
- Bullock drawn Seed-cum-fertiliser drill
- Bullock drawn Zero-till drill
- Bullock drawn Inclined plate planter
- Bullock drawn 4-row Seed drill for intercrop
- Bullock drawn Garlic planter
- Bullock drawn Turmeric planter

- Bullock drawn 3 and 5 tyne biasi plough
- Bullock drawn Drum seeder
- Bullock drawn weeder
- Bullock drawn Potato digger
- Bullock drawn Groundnut digger
- Bullock drawn engine operated sprayer
- Bullock drawn solar sprayer
- Cono weeder
- Ragi pearler
- Arecanut sacrifier
- Cashewnut sheller
- Large cardamom harvesting knife
- Improved bamboo ladder for harvesting of apple
- A low cost ropeway for agricultural material handling in hill areas

Post harvest processing and value addition technologies

- Chilli destalking machine
- Shrink packaging line for cauliflower
- Litchi destoning machine, improved pulse dehulling machine
- Pilot plant for production of fruit bar, onion grader
- Mechanical peeler for citrus
- Specialized bag for wheat storage
- Active packaging film/material for ethylene absorption
- Animal squeeze for restraining large animal
- Fumigation chamber for grapes
- Sensor based quality sensing system for mushroom and pomegranate arils
- Pilot plant for mustard based taste enhancer
- Mechanized system for production of functional meat products
- Package of equipment for processing of garcinia combogia
- Health response of soya products on animals
- Technology for lab scale production of soy protein hydrolysates
- Pneumatic Conveyor-cum dryer, Flaking machine and belt conveyor assembly

- Ready to cook products from millets
- Millet processing mill
- Cauliflower floret cutters
- Pilot scale modified atmosphere storage system for selected fruit and vegetable
- Starch/PLA based biodegradable film for packaging of fresh produce
- Small scale lac processing unit (capacity–100 kg./day) for primary processing of lac at village level

Process Protocol and Value Added Products:

- Pseudo-cereal based composite flour
- Anthocyanin enriched functional food products
- Low methoxyl pectin based food products
- Fat replacers for low-fat meat product
- Functional health promoting meat product
- Mineral fortified wheat dalia and flour
- Mustard based tastemaker
- Soft textured fruit candy
- Value added ber products
- Protocol for fumigation of grapes
- Low glycemic food products
- Antioxidant rich fruit beverages
- Process for packaging and storage of dried destalked chillies
- Technology for flax seed based extruded snack and Diabetic Flaxi Bar
- Protein rich flour formulations based on nutritional requirements of children
- Ready-to-use Comfo (complementary food) spread
- Complementary health Beverages

Jute related technology

- Power Ribboner machine for jute and mesta
- Jute grading instruments like Electronic Fibre Bundle Strength Tester, Digital Moisture
- Measurement meter, Digital Fibre Fineness tester, Colour and amp; lusture meter

- Dyeing of jute fabric with natural dyes extracted from manjista, annatto, babool and amp; ratanjot with
- Improved fastness characteristic
- Dry retting of jute plant for extraction of fibre using pectinolytic fungal culture
- Lignocellulosic fibre based agrotexiles for higher yield of horticultural crops.
- Natural fibre-based geo-textiles and placement system for protection of riverbank and
- Improvement of soil stabilization
- Ornamental jute fabric using handloom
- Jute Stick Particle Board
- Jute based handmade paper
- Jute based reinforced concrete products

Cotton related technologies

- Chemo mechanical method for preparation of nano cellulose
- Nano Cellulose Pilot plant
- Degossipolisation of cotton seed meal for use as feed for non-ruminants (poultry and fish)
- Cotton Bamboo blended fabric for active wear
- On Board pre-cleaner for mechanically picked Cotton
- Multi-axial electro spinning technology to produce nano fibres
- Protocol for ginning long staple Indian cotton on Rotary Knife Gin
- Pelleting Plant (based on Cotton Residues) established
- Nano-lignocellulose was produced from coconut fibre for composites
- Low Salt Dyeing Process for cotton developed
- Machinery for extraction of fibre from pineapple and flax
- Grading equipment for Ramie fibre

(b) Crop and Horticulture Sciences:

- During the last three years, 596 high yielding, climate resilient crop varieties/ hybrids of field crops released for cultivation in different agro-ecologies of the country. National Agricultural Research System (NARS) has also developed and released a number of varieties with higher nutritional quality like, DRR Dhan 45 (18.18 ppm Zinc) and CRR Dhan 310 (10.3% protein)

of rice; WB-2 (42 PPM Zinc and 40 ppm Fe) and HPBW-01 (40.6 ppm Zinc and 40.6 Fe) of wheat, Pusa Mustard 30 (zero erucic acid) and Pusa Mustard 31 (Double zero) of Indian mustard and two trypsin inhibitor free soybean genotypes namely NRC 101 and NRC 102. These varieties will help in attaining nutritional security in the country. Two barley varieties for industrial usage namely DWRB 101 (low Beta-Glucan suitable for malt) and DWRB 30 (high Beta-Glucan suitable for baby food) developed.

- Climate Resilient Crops to withstand adverse climate: IR-64 Drrt-1 (DRR Dhan 42) resistant to drought and Samba Sub-1 tolerant to submergence developed are the two top indented rice varieties for breeder seed production during 2017-18. These are expected to have major impact in the upland rain fed (deficit rainfall conditions) and flood (submergence) rice growing ecologies. Forty three (43) wheat accessions were identified tolerant to heat stress, which will pave the way for development of heat tolerant varieties. IPM 205-7 (Virat), an extra-early (52-55 days) maturing summer mungbean variety, first-of-its-kind globally, developed. Being short duration variety, it will help in increasing the cropping intensity and diversify the rice-wheat cropping system.
- Biotic Stress Resilient Crops to ensure crop biosecurity: Using cutting edge technology like Marker Assisted Selection (MAS), Pusa Basmati 1609, Pusa Basmati 1509, Pusa Basmati 1637 and Pusa Basmati 1728 varieties of rice developed. Development of blast resistant Basmati variety Pusa Basmati 1637 is of special significance in view of the immense pressure of importing countries for very stringent residue limit of Tricyclazole in Basmati grains, a fungicide primarily used for control of blast disease in rice.
- Three Bt. cotton cultivars viz; PAU-1, RS- 2013 and F-1861 have been identified and recommended for commercial release by ICAR. The average yield of these genotypes is nearly 500 kg./ha., more than the conventional cotton varieties. Moreover, these genotypes are moderately resistant to cotton leaf curl disease and the quality of cotton is at par with the other conventional varieties.
- In Horticulture Sciences division, 140 improved varieties and hybrids of different Horticultural crops were developed during 2014-17. Varieties developed include; Beta carotene (8.0 – 10.0ppm) rich Cauliflower variety (Pusa Kesari vit A1), extra early Cucumber variety (Pusa Seedless Cucumber-6) for protected cultivation, high yielding Downy Mildew resistant Ridge gourd variety (VRRG-27), New high yielding Potato Variety Kufri Mohan for medium duration (50 days) ,open pollinated canary yellow

musk melon (First in India under this category), Arka Samrat of tomato (Yield 80-85 t/ha in 140 days), Pea variety Arka Tapas (6.7 t/ha in 90 days) and NRCC Nagpur mandarin seedless and NRCC Acid lime. In production technology, multiple species cropping system involving coconut, pepper, banana, nutmeg, pine apple, ginger, turmeric and elephant foot yam has potential to increase income by over 150 percent. The Food Safety Referral Laboratory has been established at ICAR- Indian Institute of Horticultural Research and technical advisory on pesticide residue monitoring provided by the National Referral Laboratory ICAR-NRCG has strengthened grape exports to European Union.

(c) Management of Natural Resources:

- Under Natural Resources management, ICAR developed 52 new technologies during past 3 years (April 2014-March 2017). In addition, 623 district contingency plans were developed and updated by ICAR in collaboration with the partner Institutions all over the country. ICAR has developed technologies for conservation, management and sustainable utilization of the natural resources ensuring food, nutritional and environmental security in the country. The outcome of the research has been promoted through various developmental plan schemes of the Government and is contributing towards increase in agricultural productivity and ensuring well-being of the farming community in the country and doubling farmers' income. Some of the key technologies developed during the last 3 years include; Reclamation technology and salt tolerant varieties of rice, wheat and mustard; Mridaparikshaka minilab for soil analysis, capable of measuring 12 soil parameters of SHC (pH, EC, OC, available N, P, K, S and Fe, Zn, Cu, Mn & B) to bring soil testing service at farmers' doorstep; "Rapo-compost technology" for rapid decomposition of biomass using consortium of Ligno-cellulolytic thermophilic organisms; Establishment of 38 on-station IFS models and refined 63 existing IFS in 14 agro-climatic regions; Location specific 43 IFS models with productivity gains 3-5 times compared to monoculture; 35 Agroforestry systems with multipurpose trees for different agro-ecological regions of the country, Organic farming package for 42 cropping systems; CSR-BIO: a potential bio-growth enhancer for higher and sustainable crop productivity of salt affected soils; A multipurpose rubber dam; Vulnerability Atlas of India at district-level for all the 572 rural districts; Quantification of carbon sequestration potential through agroforestry systems across the country; Soil Resource Mapping for Sound Land Use, Development of 75 model watersheds for different agro-ecological regions of the country; Solar PV pumping system for micro-irrigation system,

Groundwater Recharge Technology; Water harvesting and recycling through farm ponds; Technology for amelioration of Acid Soils, Use of Poor Quality Sodic Groundwater-Gypsum Bed Technology and, Agroforestry based integrated watershed model for drought mitigation at Parasai-Sindh in Jhansi district of Bundelkhand region.

(d) Animal and Fisheries Sciences:

- In animal sciences, 17 new breeds were registered during last years (April 2014- March 2017) and with this, the total number of breeds registered in the country has moved up to 160. Likewise, the number of new technologies, vaccines for livestock and poultry and new diagnostic kits developed during last 3 years were 145, 9 and 32 respectively. New poultry varieties developed and released include, Srinidhi: 'Srinidhi' is a new promising dual purpose variety developed for rural poultry by DPR, Hyderabad (annual egg production was 228 eggs and survivability was more than 95%); Kamrupa": A multi-coloured bird for rural poultry production developed at AAU, Assam (Annual egg production is 118-130 eggs with an egg weight of 52 grams and Survivability of more than 95%); Pratapdhan: a dual purpose coloured bird developed for rural poultry farming in Rajasthan (Annual production of 161 eggs annually, which is 274% higher than local native); 'Narmadanidhi': A new and improved location specific variety of chicken developed and released (under backyard system, annual egg production is 181 which is 4 times higher than the local native chicken) and Jharsim a location specific dual purpose chicken variety, suitable for rearing in the agro-climatic conditions of the state of Jharkhand and adjoining NE states.(Annual egg production of 165-170). The new crossbred pig varieties included; Rani and Asha ; HD K75 and Jahrsuk; (These varieties can gain almost 74 - 80 kg pork at slaughter age of 8 months with 1.75 - 2.58 cm of back fat thickness). "Lumsniang"- A new pig variety developed and released by ICAR can attain body weight of 90-100 kg at 12 months of age, besides higher litter size at weaning as compared to local non-descriptive pigs (8.56 ± 0.77 Vs 5.23 ± 0.54) in the low input tribal production system. Avishaan a new and prolificsheep breed developed by ICAR has the potential to increase multiple births by 50 percent. By rearing this breed, the sheep farmers with 100 breeding ewes, can get 40 extra lambs in a year compared to native Malpura sheep with 85% lambing rate and 95% lamb survivability. They earn extra income of Rs. one lakh per annum by selling 3-4 months Avishaan lambs. These technologies have a great potential for doubling the farmers income. Major breakthroughs were also achieved in buffalo cloning with the production of cloned calves Lalima

and Rajat by Hand Guided Cloning Technique. Three classical swine fever vaccine strains; peste des petits ruminants' virus (PPRV) and Sungri/96 strain of Newcastle disease virus (NDV) were also developed by ICAR.

- During past 3 years, 24 new improved breeding technologies for fish production were developed by ICAR research Institutes. Also 11 diagnostic kits for fish diseases, 22 fish products, 22 fishing gears and 11 fishing crafts were also developed/designed by ICAR research Institutes. In addition, 6 new nutraceutical products from fish were also developed by ICAR research institutes during last 3 years. Among the pioneering achievements of ICAR in fisheries sciences during last 3 years include; Broodstock and seed production technologies for commercially important marine finfish species for mariculture - Cobia, silver pompano, Indian Pompano and orange spotted grouper; Breakthrough in breeding and seed production of milkfish (*Chanoschanos*) in captivity – an important brackishwater fish for aquaculture diversification. The fish species is highly suited for culture in different salinity in brackish water and inland saline ponds; Viability of open sea cage farming of commercially important marine finfish species namely, cobia and silver pompano, has been demonstrated. Over 1000 cages have been installed all along the coastline for demonstration of cage farming through participatory approach with involvement of self-help groups. The technology has been widely accepted by fishers/fisher groups that has helped improving the livelihood status of coastal fisher community involved; Breakthrough in induced breeding and seed production of Hilsa; Prolonged and multiple breeding of Indian major carps and other species of commercial importance for round the year seed availability; Mass scale seed production of major, medium and minor carps, cat fishes and fresh water prawn enabling system and species diversification in culture practices; Induced breeding, seed production and farming technologies for commercially important coldwater fish species including chocolate mahseer and snow trout have been standardized; Management protocols and package of practices for culture-based capture fishery for reservoirs and wetlands; Development of Organic manure and Bio-fertilizers from fish waste produced through aerobic microbial degradation of marine fish waste, enhances flowering and fruit setting in plants and soil productivity leading to increased production; Novel approaches as promotion of Integrated Multi-Trophic Aquaculture (IMTA) of seaweed with Cobia in open-sea cage farming have been demonstrated and these models were able to provide additional income, rural empowerment and livelihood support along the coastal belt of India and National Surveillance Programme on Aquatic Animal Diseases launched in 17 states and one Union Territory covering 115 districts with involvement of 26 organizations.

Statement-II

Estimated average monthly income (₹) per agricultural household for different States/group of UTs during July 2012-June 2013 as per the results of the Situation Assessment Survey of Agricultural Households, NSS 70th round (January 2013-December 2013)

State/Group of UTs#	Income from wages	Net receipt from cultivation	Net receipt from farming of animals	Net receipt from non-farm business	Total Income
1	2	3	4	5	6
Andhra Pradesh	2482	2022	1075	400	5979
Arunachal Pradesh	2076	6647	1310	836	10869
Assam	1430	4211	799	255	6695
Bihar	1323	1715	279	240	3558
Chhattisgarh	1848	3347	-19	1	5177
Gujarat	2683	2933	1930	380	7926
Haryana	3491	7867	2645	431	14434
Himachal Pradesh	4030	2876	1047	824	8777
Jammu and Kashmir	7336	3063	801	1483	12683
Jharkhand	1839	1451	1193	238	4721
Karnataka	2677	4930	600	625	8832
Kerala	5254	3531	575	2529	11888
Madhya Pradesh	1332	4016	732	129	6210
Maharashtra	2156	3856	539	834	7386
Manipur	3815	2924	1563	540	8842
Meghalaya	3776	6472	657	887	11792
Mizoram	3655	4561	864	19	9099
Nagaland	5393	3212	1384	59	10048
Odisha	1716	1407	1314	539	4976
Punjab	4779	10862	1658	760	18059
Rajasthan	2534	3138	967	710	7350
Sikkim	3113	1696	980	1009	6798
Tamil Nadu	2902	1917	1100	1061	6980
Telangana	1450	4227	374	260	6311

1	2	3	4	5	6
Tripura	2185	2772	311	162	5429
Uttarakhand	1069	2531	848	253	4701
Uttar Pradesh	1150	2855	543	376	4923
West Bengal	2126	979	225	650	3980
Group of UTs	5179	1864	213	1312	8568
ALL INDIA	2071	3081	763	512	6426

#Figures for remaining States are not published due to inadequate sample size (*i.e.* number of sample households less than 300). Figures for UTs have been clubbed and given against 'Group of UTs' due to the same reason.

Source: Table 1 of Appendix A, NSS Report No. 576: Income, Expenditure, Productive Assets and Indebtedness of Agricultural Households in India.

Statement-III

Details of schemes in order to realise net positive returns for the farmer and reducing cost of cultivation/production being promoted and implemented in a major way towards this

- (i) Soil Health Card (SHC) scheme by which the farmers can know the major and minor nutrients available in their soils which will ensure judicious use of fertiliser application and thus save money of farmers. The balanced use of fertiliser will also enhance productivity and ensure higher returns to the farmers. The second cycle which began from 1st May 2017 is building on the learning of the first cycle so as to improve efficiency and make its use more acceptable by the farmers. As on 27.6.2017, 253.54 lakh soil samples have been collected, 243.91 lakh samples have been tested and a total of 870.17 lakh Soil Health Cards have been distributed to farmers.
- (ii) Neem Coated Urea (NCU) is being promoted to regulate use of urea, enhance availability of nitrogen to the crop and reduce cost of fertilizer application. NCU slows down the release of fertilizer and makes it available to the crop in an effective manner. The entire quantity of domestically manufactured and imported urea is now neem coated. The reports from field are positive. The expected saving is 10% of urea consumption, thereby resulting in reduced cost of cultivation and improved soil health management.
- (iii) Paramparagat Krishi Vikas Yojana (PKVY) is being implemented with a view to promote organic farming in the country. This will improve soil health and organic matter content and increase net income of the farmer so as to realise premium prices. Under this scheme, an area of 5 lakh acre

is targeted to be covered though 10,000 clusters of 50 acre each, from the year 2015-16 to 2017-18. So far 7208 clusters have been formed and remaining clusters would be formed during 2017-18.

- (iv) Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was launched on 1st July, 2015 with the motto of 'Har Khet Ko Paani' for providing end-to-end solutions in irrigation supply chain, comprising water sources, distribution network and farm level applications. PMKSY not only focuses on creating sources for assured irrigation, but also creating protective irrigation by harnessing rain water at micro level through 'Jal Sanchay' and 'Jal Sinchan'. Micro irrigation is also incentivized through subsidy to ensure 'Per drop-More crop'. PMKSY adopts State level planning and projectised execution that allows States to draw up their own irrigation development plans based on District Irrigation Plans and State Irrigation Plans. The target for the year 2016-17 was 8 lakh ha. under micro irrigation against which 8.39 lakh ha. have been covered.
- (v) The National Agriculture Market scheme (e-NAM) was launched on 14.04.2016 in 8 States viz. Gujarat, Telangana, Rajasthan, Madhya Pradesh, Uttar Pradesh, Haryana, Himachal Pradesh and Jharkhand covering 21 markets. The scheme envisages initiation of e-marketing platform at national level and will support creation of infrastructure to enable e-marketing in 585 regulated markets across the country by March 2018. This innovative market process is revolutionizing agri-markets by ensuring better price discovery, bringing in transparency and competition to enable farmers to get improved remuneration for their produce moving towards 'One Nation One Market'. 455 markets in 13 States have been on boarded as on 30.6.2017.
- (vi) Pradhan Mantri Fasal Bima Yojana (PMFBY) was introduced from Kharif 2016 to address the risks associated with agriculture. PMFBY addresses all the shortcomings in the earlier schemes and is available to the farmers at very low rates of premium. The farmers will get full insurance cover as there is no capping of sum insured and consequently the claim amount is not cut or reduced. This scheme provides insurance cover at all stages of the crop cycle including post-harvest risks in specified instances. It has been targeted to increase the area coverage to 30% by 2016-17, 40% by 2017-18 and 50% by the end of following year. The first year target has been achieved. The coverage was 390.02 lakh farmers and 386.75 lakh hectares area insured with a sum of ₹ 1,41,883.30 crore during Kharif 2016; and 172.94 lakh farmers and 196.29 lakh hectares area insured with a total sum of ₹ 69,851.37 crore during Rabi 2016-17. The year also brought focus on covering non-loanee farmers under PMFBY along with

loanee farmers, for whom the insurance cover is compulsory. The number of non-loanee farmers covered in the year 2016-17 increased to 135 lakh, showing the popularity of the scheme.

- (vii) The Government provides interest subvention of 3% on short-term crop loans up to ₹ 3.00 lakh. Presently, loan is available to farmers at an interest rate of 7% per annum, which gets reduced to 4% on prompt repayment. Further, under Interest Subvention Scheme 2016-17, in order to provide relief to the farmers on occurrence of natural calamities, the interest subvention of 2% shall continue to be available to banks for the first year on the restructured amount. In order to discourage distress sale by farmers and to encourage them to store their produce in warehouses against negotiable receipts, the benefit of interest subvention will be available to small and marginal farmers having Kisan Credit Card for a further period of upto six months post harvest on the same rate as available to crop loan.
- (viii) In addition, the Government is implementing other Centrally Sponsored Schemes viz. National Food Security Mission (NFSM); Mission for Integrated Development of Horticulture (MIDH); National Mission on Oilseeds and Oilpalm (NMOOP); National Mission for Sustainable Agriculture (NMSA); National Mission on Agricultural Extension and Technology (NMAET) and Rashtriya Krishi Vikas Yojana (RKVY).
- (ix) Minimum Support Price (MSP) is notified for both Kharif and Rabi crops based on the recommendations of the Commission on Agriculture Costs and Prices (CACP). The Commission collects and analyses data on cost of cultivation and recommends MSP. To incentivise cultivation of pulses and oilseeds in the country, Government has announced bonus for Kharif 2017-18, over and above the approved MSP. Even during last year, Government had offered bonus over and above the MSP, in the case of pulses and oilseeds. Further the Government undertakes procurement of wheat and paddy under its 'MSP operations'. In addition, Government implements Market Intervention Scheme (MIS) for procurement of agricultural and horticultural commodities not covered under the Minimum Price Support Scheme on the request of State/UT Government. The MIS is implemented in order to protect the growers of these commodities from making distress sale in the event of bumper crop when the prices tend to fall below the economic level/cost of production.
- (x) The Ministry of Rural Development is implementing Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in rural areas of the country to provide 100 days of wage employment in a financial year

since February 2, 2006. The Sub-Para (2) of Paragraph 4 of Schedule 1, MGNREGA, lays down that, "District Programme Coordinator shall ensure that at least 60% of the works to be taken up in a district in terms of cost, shall be for creation of productive assets directly linked to agriculture and allied activities through development of land, water and trees".

- (xi) Further, the Ministry of Rural Development is also implementing Mahila Kisan Sashaktikaran Pariyojana (MKSP), a sub-component of Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM) which aims to meet the specific needs of women farmers and achieve socio-economic and technical empowerment of rural women farmers, predominantly small and marginal farmers. The primary objective of the MKSP is to empower women in agriculture by making systematic investments to enhance their participation and productivity, as also create and sustainable agriculture based livelihoods for rural women.

Growth rate of the Animal Husbandry sector

2243. SHRI B. K. HARIPRASAD: Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) whether it is fact that the Animal Husbandry sector is facing challenges such as delivery of services, shortage of feed and fodder and frequent occurrence of deadly diseases in animals; and

(b) if so, the present growth rate of the sector and the schemes prepared and implemented by Government to achieve the growth rate?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE (SHRI SUDARSHAN BHAGAT): (a) As reported by the Indian Grassland and Fodder Research Institute, Jhansi, under the aegis of Indian Council of Agricultural Research, there is an estimated deficit of 35.6% green fodder and 11.0% of dry forage in the country. The incidence of occurrence of animal diseases is regularly reported by State/UTs.

(b) According to estimates of the Central Statistics Office (CSO), the value of output from livestock sector at constant prices was about ₹ 4,15,949 crore during 2015-16 which is about 25.7% of the value of output from agriculture and allied sector at basic year 2011-12 and growth rate was 6.53%. Considering the immense contribution of the livestock sector in our economy, the Government of India is implementing National Livestock Mission (NLM) since 2014-15 with broad objectives to cover all the activities required to ensure improvement in livestock sector especially small ruminants in the country. This mission is formulated with the objective of sustainable development of