

SIXTEENTH LOK SABHA

MINISTRY OF AGRICULTURE AND FARMERS WELFARE
(DEPARTMENT OF ANIMAL HUSBANDRY, DAIRYING AND FISHERIES)

"Steps taken to Bridge the Gap Between the Demand and Availability of Fodder through
Sub-Mission on Fodder and Feed Development"

{Action Taken by the Government on the Observations/
Recommendations contained in the Thirty Fourth Report (Sixteenth Lok Sabha) of the
Standing Committee on Agriculture (2016-2017)}

FORTY FIRST REPORT



LOK SABHA SECRETARIAT
NEW DELHI

August, 2017/Shrawana, 1939(Saka)

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STANDING COMMITTEE ON AGRICULTURE (2016-2017)

(SIXTEENTH LOK SABHA)

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Presented to Lok Sabha on 10.08.2017

Laid on the Table of Rajya Sabha on 10.08.2017



**LOK SABHA SECRETARIAT
NEW DELHI**

August 2017/Shrawana, 1939 (Saka)

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(i)

COMPOSITION OF THE STANDING COMMITTEE ON AGRICULTURE (2016-17)

Shri Hukm Deo Narayan Yadav - Chairperson

MEMBERS

LOK SABHA

2. Prof. Ravindra Vishwanath Gaikwad
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5. Smt. Raksha Khadse
6. Md. Badaruddoza Khan
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19. Shri Dharmendra Yadav
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RAJYA SABHA

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SECRETARIAT

1.	Shri D. S. Malha	-	Joint Secretary
2.	Shri Arun K. Kaushik	-	Director
3.	Shri C. Vanlalruata	-	Deputy Secretary
4.	Ms. Divya Rai	-	Executive Assistant

(iii)

INTRODUCTION

I, the Chairperson, Standing Committee on Agriculture (2016-17), having been authorized by the Committee to submit the Report on their behalf, present this Forty First Report on action taken by the Government on the Observations/Recommendations contained in the Thirty Fourth Report (Sixteenth Lok Sabha) of the Standing Committee on Agriculture (2016-17) on the Subject "Steps taken to Bridge the Gap between the Demand and Availability of Fodder through Sub-Mission on Fodder and Feed Development" pertaining to the Ministry of Agriculture and Farmers Welfare (Department of Animal Husbandry, Dairying and Fisheries).

2. The Thirty Fourth Report (Sixteenth Lok Sabha) of the Standing Committee on Agriculture (2016-17) on the Subject "Steps taken to Bridge the Gap between the Demand and Availability of Fodder through Sub-Mission on Fodder and Feed Development" pertaining to the Ministry of Agriculture and Farmers Welfare (Department of Agriculture, Cooperation and Farmers Welfare) was presented to Lok Sabha and laid on the Table of Rajya Sabha on 15 December, 2016. The Action Taken Notes on the Report were received on 14 March, 2017.

3. The Report was considered and adopted by the Committee at their Sitting held on 03.08.2017.

4. An analysis of the action taken by the Government on the Observations/Recommendations contained in the Thirty Fourth Report (Sixteenth Lok Sabha) of the Committee is given in **Appendix**.

NEW DELHI;
07th August, 2017
16th Shravana, 1939(Saka)

HUKM DEO NARAYAN YADAV
Chairperson,
Standing Committee on Agriculture

CHAPTER-I

R E P O R T

This Report of the Committee on Agriculture deals with the action taken by the Government on the Observations/Recommendations contained in the Thirty-fourth (Sixteenth Lok Sabha) of the Standing Committee on Agriculture (2016-2017) on the Subject 'Steps Taken to Bridge the Gap Between the Demand and Availability of Fodder through Sub Mission on Fodder and Feed Development' pertaining to Ministry of Agriculture (Department of Animal Husbandry, Dairying and Fisheries) which was presented to Lok Sabha and laid on the Table of Rajya Sabha on 15.12.2016.

1.2 The Ministry of Agriculture and Farmers Welfare (Department of Animal Husbandry, Dairying and Fisheries) have furnished Action Taken Replies in respect of all the 14 Observations/Recommendations contained in the Report. These replies have been categorized as under:

(i) Observations/Recommendations that have been accepted by the Government:

Recommendation Nos. 1, 2, 3, 7, 8, 9, 10, 11, 12 and 13

**Total 10
Chapter - II**

(ii) Observations/Recommendations in respect of which the Committee do not desire to pursue in view of the Government's reply:

Recommendation No. NIL

**Total 00
Chapter - III**

(iii) Observations/Recommendations in respect of which action taken replies of the Government have not been accepted by the Committee:

Recommendation Nos. 5 and 14

**Total 02
Chapter - IV**

(iv) Observations/Recommendations in respect of which final replies of the Government are still awaited :

Recommendation Nos. 4 and 6

**Total 02
Chapter - V**

1.3 The Committee trust that utmost importance would be given to implementation of the Observations/Recommendations accepted by the Government. In cases, where it is not possible for the Department to implement the Recommendations in letter and spirit, the matter should be reported to the Committee with reasons for non-implementation. The Committee desire that further Action Taken Notes on the Observations/ Recommendations contained in Chapter-I and final Action Taken Replies to the Recommendations contained in Chapter-V of this Report be furnished to them at an early date.

1.4 The Committee will now deal with the action taken by the Government on some of the Recommendations in the succeeding paragraphs.

A. NEED FOR INCREASING AVAILABILITY OF FEED AND FODDER

Recommendation (Serial No. 1)

1.5 The Committee had observed/ recommended as under:-

"The Committee note that availability of adequate quality of feed and fodder for livestock is essential for improving livestock productivity. However, the Committee are constrained to note that there is substantial shortage of feed and fodder in the country. As per the estimates of National Institute of Animal Nutrition and Physiology (NIANP), the deficit in the requirement and availability of Dry Fodder, Green Fodder and Concentrates during 2015 was to the extent of 21 MT, 26 MT and 34 MT which will increase further to 23 MT, 40 MT and 38 MT respectively by the year 2025. This shortage is due to increasing pressure on land for growing food grains, oil seeds and pulses and inadequate attention being given to the production of fodder crops. Further, on account of diversified use of agricultural residues, the grazing lands are gradually

diminishing. The area under fodder cultivation is also limited. Majority of the grazing lands have either been degraded or encroached upon restricting their availability for livestock grazing. The area under fodder cultivation is only about 4% of the cropping area, and it has remained static for a long period of time. According to the Department, owing to the importance of food crops and other cash crops, it is very unlikely that the area under fodder cultivation would increase substantially. While the availability of feed and fodder has improved in the last decade, the Committee note that still a lot is required to be done to bridge the gap between the demand and availability of fodder in the country, particularly during the lean periods and crisis situations. Needless to say, livestock is a major source of livelihood for a majority of the rural population in the country. The contribution of livestock to the household income of the farmers cannot be ignored. It generates sustainable livelihood for small and marginal farmers in the country. Thus, livestock is an important and integral part of Indian agriculture and rural economy. However, livestock husbandry cannot be sustained without addressing the development of feed and fodder resources. It is, therefore, imperative that forage production and its quality may be augmented to improve productivity of livestock. In this context, the Committee note that the Government has launched "Sub Mission on Fodder and Feed Development" under the National Stock Mission from 2014-15 to comprehensively address the feed and fodder issue. The Government has also issued advisory on measures to be taken for increasing availability of fodder to mitigate the effect of natural calamities. However, the Committee feel that the Department being the nodal agency need to make concerted and coordinated efforts ensuring that the shortage of feed and fodder in the country is addressed effectively and comprehensively. The Committee, therefore, would like the Department to take up the issue with all its seriousness and coordinate with all stakeholders on the issue. The Committee would also like to be apprised of the initiatives undertaken by the Government in this regard and the progress made therein."

1.6 The Department in the Action Taken Reply has stated as under:-

"The Department of Animal Husbandry, Dairying and Fisheries has launched National Livestock Mission in 2014-15 with a Sub Mission on Feed and Fodder Development. The financial assistance is being provided to the States and UTs for feed and fodder development under the following components.

- i. Fodder Production from Non-forest wasteland/rangeland/grassland/non-arable land
- ii. Fodder production from Forest land
- iii. Fodder Seed Procurement/ Production & Distribution
- iv. Introduction of Hand Driven Chaff-Cutter
- v. Introduction of Power Driven Chaff-Cutter
- vi. Distribution of low capacity, tractor mountable Fodder Block Making units, hay bailing machines/reapers/forage harvesters
- vii. Establishment of silage making Units
- viii. Establishment of by-pass protein production units
- ix. Establishment of Area Specific Mineral Mixture / Feed Pelleting/ Feed Manufacturing Unit
- x. Establishment/modernization of Feed Testing Laboratories

Funds released under the Sub Mission-Feed & Fodder Development of National Livestock Mission

Year	Funds Released (Rs in crore)
2014-15	47.68
2015-16	16.85
2016-17 till 6.3.2017	34.15

2. The Department of Agriculture Co-operation & Farmers Welfare under National Food Security Mission (NFSM) Programme several components are being implemented for production of Rice, Wheat, Pulses and Course Cereals. Farmers are encouraged to grow newly released varieties of the crops for higher production & productivity, which in turn increases the availability of fodder to cattle and other ruminants. This is achieved by cluster demonstration, seed distribution of newly released varieties. The activities under the component cultivation of coarse grains and dual purpose crops is taken under the National Food Security Mission (NFSM). The State Governments, for coarse grains and dual purpose crops

approach the Department of Agriculture Co-operation & Farmers Welfare with their project proposals. The following activities are under this component:

- i. Seed production under contract farming with buy back arrangement with the State Government / seed supplying agency
- ii. Buy back of the seed by the State Government / seed supplying agencies
- iii. Distribution of the seeds to the farmers free of cost or at subsidized rates
- iv. Support for land levelling, irrigation, etc.

3. Additional Fodder Development Programme –a sub scheme of Rashtriya Krishi Vikas Yojna(RKVKY) is also in operation since 2014-15 and is continuing at present. Funds are being released to the States/UTs during the period of drought for fodder development and thereby livestock sustainability.

4. Rashtriya Krishi Vikas Yojna(RKVKY) is also in operation in the Department of Agriculture Co-operation and Farmers Welfare. The scheme also supports seed production and other fodder development programme as proposed by the States. These are also supported by the Department of Animal Husbandry, Dairying and Fisheries.

5. Further States have their own fodder production programme. Both for normal time and during natural calamities like drought, flood, hailstorm etc."

1.7 While noting unavailability of adequate quality of feed and fodder for livestock, the Committee recommended that the Department, being the nodal agency in this regard, needs to make concrete efforts in ensuring that such a shortage of feed and fodder is addressed accordingly and that livestock rearing is made sustainable as it contributes to the household income of farmers. The Department, in its Action Taken Reply has informed that it is promoting cultivation of coarse grains and dual purpose crops under the National Food Security Mission (NFSM) and undertaking seed production and other activities under this component. The Committee were also apprised about States having their own fodder production programme for both normal times and natural calamities. The Committee are of the considered opinion that the Department

identify various constraints in the way of ensuring availability of adequate and improved quality of feed and fodder for the livestock, as well as work towards effective and timely implementation of the Sub Mission on Fodder and Feed Development. The Committee would like to be informed about State specific fodder production programmes during normal times as well as during natural calamities and also about the reasons behind decrease in the amount of funds released under the Sub Mission during the year 2015-16. The Committee would also like to be apprised of further initiatives undertaken by the Department in this regard.

B. ALLOCATION OF FUNDS

Recommendation (Serial No. 2)

1.8 The Committee had observed/ recommended as under:-

"The Committee note that States have been given liberty to choose the development of any or all the four Sub Missions under the National Livestock Mission (NLM) with a restriction of availability of budget with the Department. The tentative budget outlay to each State/UT is conveyed in the month of April each year so that they can formulate the plans best suited to their State/UT. Afterword, the plan is received in the Department and processed for release of budget to the State/UT. The Committee are of the opinion that the practice of tentative allocation of funds to States should be done away with and instead need based funds as per the requirement of the States be allocated by the Department. However, the Committee are anguished to note that funds being allocated to the Sub Missions under NLM in the States were woefully inadequate during the years 2014-15 and 2015-16. This has resulted in meager allocation to the Sub Missions in 2014-15, with the situation worsening in the year 2015-16 when no separate allocations to the Sub Missions could be made due to very less funds and the budget of 2015-16 was used to meet liabilities of the previous year. Also, funds released under the Sub Mission on Fodder and Feed Development in the years 2014-15 and 2015-16 are 47.63 crores and

16.86 crores, respectively. Needless to say, insufficient funds have severely hampered the implementation of physical and financial targets of the Sub Mission on Fodder and Feed Development. The Department has also accepted the fact that the implementation of the Sub Mission has been hampered by the less allocation of funds as against the approved outlay. According to the Department, owing to very low allocations of funds for NLM, overall impact of the schemes of Sub Mission could not be ascertained from the States/UTs as the States/UTs could not given sufficient funds or no funds at all for implementation. In the absence of such study, the Committee feel that the Department would not get the opportunity to undertake corrective interventions to reorient its schemes/Sub Missions for the benefit of intended beneficiaries. Deprecating this sordid state of affairs, the Committee, therefore, recommend that the Department should take up this issue with the Ministry of Finance and impress upon them to provide adequate funds so that schemes/Sub Missions of the National Livestock Mission, particularly the Sub Mission on Fodder and Feed Development, do not suffer for want of funds.

During the course of evidence, the Secretary of the Department informed the Committee that a National Perspective Plan is being formulated which would also be circulated to the States asking them to furnish integrated Plan so that funds could be allocated accordingly within the limited resources of the Central Government. The Committee, therefore, recommend that the formulation of National Perspective Plan as proposed by the Government be expedited in consultation with all States/UTs so that funds could be allocated to them as per their demand for effective implementation of schemes/Sub-Missions undertaken by them. The Committee would like to be apprised of the actions taken and progress made by the Department in this regard."

1.9 The Department in its Action Taken Reply has stated as under:-

"Department of Economic Affairs, Budget Division Ministry of Finance has mentioned that the allocation for National Livestock Mission is being progressively increased as under:

Rs in Crore

	BE 2015-16	BE 2016-17	RE 2016-17	BE 2017-18
National	106.37	292.00	250.00	310.00

Livestock Mission				
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Further, the overall allocation in respect of Department of Animal Husbandry Dairying & Fisheries has also increased as under

<u>Rs in Crore</u>			
BE 2015-16	BE 2016-17	RE 2016-17	BE 2017-18
1585.43	1881.51	1994.00	2371.00

Department is pursuing for additional allocation of funds with Ministry of Finance. Hon'ble Agriculture Minister has written to Hon'ble Union Finance Minister.

1. Regarding National Perspective Plan as a strategy department has prioritised development of Gochar and waste lands for augmenting fodder availability in the country. For this the State Governments have been requested to develop Gochar lands by taking assistance under Sub Mission on Feed and Fodder Development of National Livestock Mission. This year (2016-17) five States viz Chhattisgarh, Odisha, Jharkhand, Rajasthan and Gujarat have been given financial assistance for development of the Gochar land. Further the success model of Gochar land development in Dharmaj village in Anand District of Gujarat has been sent to all States for replication.
2. Department is coordinating with other departments like Department of Agriculture, Cooperation and Farmers Welfare, Department of Agricultural Research and Education, Ministry of Panchayati Raj, Ministry of Environment and Forests and Climate Change, Ministry of Rural Development to synergize there activities for enhancing fodder production.
3. Department of Agriculture, Cooperation and Farmers Welfare has brought out the National Agroforestry Policy in 2014 to promote Agroforestry in the country. To take forward the recommendation of National Agroforestry Policy a Sub-Mission on Agroforestry(SMAF) under the ambit of National Mission for Sustainable Agriculture (NMSA) has been made operational from 2016-17. Different Agroforestry models includes sustainable Agri-silvicultural systems, Silvi-pastoral systems, Agro-silvi-pastoral system etc. are supported under the

programme. SMAF will be expanded the coverage under tree plantation in arable land suitable to specific agro ecological, Culturable wasteland and land use condition that provide livelihood, environmental & bio-diversity protection and additional income sources for farmers. SMAF includes both traditional and modern land-use systems where trees are managed along with crops and/or animal production systems in a farming system approach. Perennial tree species useful for fodder production and which are liberalized under transit regulations for transport of timber may also be promoted under the SMAF.

4. Ministry of Rural Development- As per the para 2.5.2.1 of the annual Master Circular issued by the Ministry, Pasture development is a permissible work as mentioned under category A,(vi) Pasture Development; perennial grasses like Stylo etc. And under Category B, (iv), Paature Development perennial grasses like Stylo, Vetiver etc. In the category of Drought proofing works of MGNREGA, under Grassland Development and Silvipasture. As on 20th Jan2017, a total of 2043 number of works relating to Grassland development and silvipasture are completed and 1205 works on going in 25 States/UTs. A state-wise detail is given in **Annexure-I.**"

1.10 The Committee, while noting that the practice of tentative allocation of funds to States is creating more hurdles than facilitating proper allocation and expenditure on different components of National Livestock Mission, recommended that the Department take up the issue with the Ministry of Finance and impress upon them to provide adequate funds so that the schemes / Sub Missions of the National Livestock Mission, particularly the Sub Mission on Fodder and Feed Development, do not suffer for want of funds. Further, on being informed about a National Perspective Plan being formulated, the Committee recommended that the formulation of such a Plan as proposed by the Government be expedited in consultation with all States / UTs so that funds could be allocated to them as per their demand for effective implementation of schemes / Sub Missions undertaken by them. The Department in its Action Taken Reply, informed the Committee that it is pursuing for additional allocation of funds with the Ministry of Finance. The Department also stated that under the National Perspective Plan, it has prioritised development of Gochar and

wastelands for augmenting fodder availability in the country and that it also coordinating with other departments and ministries to synergize their activities for fodder production. Moreover, the Committee had earlier recommended that the Department assess the overall impact of insufficient allocation of funds on the schemes under the Sub Mission on Feed and Fodder Development being implemented in the States and UTs, as, in the absence of such a study, the Department would not get the opportunity to undertake corrective interventions to reorient its schemes/Sub Missions for the benefit of intended beneficiaries. The Committee feel that more needs to be done on this front and therefore, reiterate their earlier recommendation that the Department should take up this issue with the Ministry of Finance and impress upon them to provide adequate funds so that schemes/Sub Missions of the National Livestock Mission, particularly the Sub Mission on Fodder and Feed Development, do not suffer for want of funds. The Committee would like to be apprised of actions taken and progress made by the Department in this regard.

C. OPTIMUM UTILISATION OF LAND RESOURCES FOR FODDER DEVELOPMENT

Recommendation (Serial No. 03)

1.11 The Committee had observed/ recommended as under:-

"The Committee note that the number of livestock is growing rapidly but the grazing lands are gradually diminishing due to pressure on land for agricultural and non-agricultural uses. According to the Department, the need of the time is to adopt the practice of land use with multiple crops in a sustainable manner. Adopting Silvi-pastoral and Horti-pastoral models suitable to the area can help in substantially enhancing the availability of forage for the livestock. About 29 million ha area in the country falls under the category of open forests with less

than 0.4 canopy density which can be developed with fodder trees. This huge land resource can be utilized for growing fodder, mostly as an under-storey on the partially shaded ground without affecting standing trees. Similar development is also possible in the area under horticulture orchards. While the forest department can undertake Silvi-pastoral plantations through the Joint Forest Management Committees, the Horti-pastoral activities can be initiated by incentivizing the farmers who are owners of the orchards. While the Department has issued advisory to the States in this regard, the Committee would like the Department to pursue its advisory and coordinate with all stakeholders including State Governments to utilize huge land resources which fall under the category of open forests and area under horticulture orchards for growing fodder. Barren land or non-forest wasteland or non-arable land across the country should also be utilized for multi-perennial fodder crops for which adequate incentives should be given to the farmers. In this context, the Committee strongly feel that the unutilised land of Railways and Defence should also be utilised for cultivation of fodder crops. It was pointed out by the Committee that during British regime, unutilized land along both sides of the railway lines were being used either for grazing or for production of fodder. According to the Department, the matter was taken up at the highest level and after lot of deliberations over the issue, it was decided that the unutilised land of Railways and Defence could not be utilised for development of fodder. Nevertheless, the Committee still feel that the issue needs to be re-looked in to by all the stakeholders as a large chunk of Railways and Defence land is being encroached upon by unscrupulous elements. The Committee would like to be apprised of the action taken by the Department in this regard."

1.12 The Department in its Action Taken Reply has stated as under:-

1. Department of Agriculture, Cooperation and Farmers Welfare has brought out the National Agroforestry Policy in 2014 to promote Agroforestry in the country. To take forward the recommendation of National Agroforestry Policy a Sub-Mission on Agroforestry(SMAF) under the ambit of National Mission for Sustainable Agriculture (NMSA) has been made operational from 2016-17. Different Agroforestry models includes sustainable Agri-silvicultural systems, Silvi-pastoral systems, Agro-silvi-pastoral system etc.

are supported under the programme. SMAF will be expanded the coverage under tree plantation in arable land suitable to specific agro ecological, Culturable wasteland and land use condition that provide livelihood, environmental & bio-diversity protection and additional income sources for farmers. SMAF includes both traditional and modern land-use systems where trees are managed along with crops and/or animal production systems in a farming system approach. Perennial tree species useful for fodder production and which are liberalized under transit regulations for transport of timber may also be promoted under the SMAF.

2. In the State like Punjab establishment of commercial dairy farms with high producing cattle and buffaloes has resulting in higher demand for green fodder consequently resulting in dairy farmers taking up large scale cultivation of fodder maize crop either on their own land or on leased land.
3. Regarding utilization of railway land- railway tracks are normally laid on an elevated bank with very little space left beyond the shoulder of the ballast. Vegetations on these narrow strips of land is not encouraged as it attracts cattle and other livestock for grazing, who cross the track from one side to the other and get run-over by trains and on many occasions are reasons for derailments/damage to the under-gear or locomotives.
4. Gochar land Development- the State Governments have been requested to develop Gochar lands by taking assistance under Sub Mission on Feed and Fodder Development of National Livestock Mission. This year (2016-17) five States viz Chattisgarh, Odisha, Jharkhand, Rajasthan and Gujarat have been given financial assistance for development of the Gochar land. Further the success model of Gochar land development in Dharmaj village in Anand District of Gujarat has been sent to all States for replication.
5. The Ministry of Panchayati Raj has been requested to identify the Gochar land for developing and to rope in the Panchayats in the process. It has been mentioned that MGNREGA funds may also be dovetailed as labour component.
6. Eight Regional Fodder Stations situated in different agro climatic zones of the country are doing extension work related to dissemination of knowledge related to all aspects of fodder production, utilization, storage, seed production etc.

7. Non-traditional fodder like azolla cultivation is being promoted, which takes very little space for cultivation at the same time gives large quantity of quality fodder.
8. Fodder cultivation activities along with feed production activities proposed by State/UTs under RKVY are supported by the department.
9. All the proposals of import of quality varieties of fodder seeds in country are supported by the department.
10. Proper post harvest utilisation of fodder is being promoted under Sub Mission on Feed and Fodder Development of National Livestock Mission so that there is no wastage. As per report nearly 30% fodder is saved by chaffed fodder feeding habits. Silage making, bailing and fodder block making are supported as storage devices so the fodder is available during lean periods.
11. As many manufactures are producing feed in the market. To ensure quality feed available department is supporting for establishment of feed testing laboratories.
12. Developed grassland in Bihar: IGFRI, Jhansi with support of Deptt. Of Forest, Govt. of Bihar: Developed 2 ha area in hilly degraded Forest of Gaya district in 2013. Established Guinea grass (*Panicum maximum*), Dinanath grass (*Pennisetum pedicellatum*), Hybrid Napier and *Stylosanthes hamata*.
13. An area of 5 ha. of natural/barren/degraded pastureland has been developed as model grassland in IGFRI, Jhansi. The productivity of developed model grassland increased from 11t/ha green forage (palatable and non-palatable) in natural to 29 t/ha (only palatable grasses and legumes within one year of interventions. In the developed model grassland grazing experiment of small ruminants has been initiated and initial data showed that the forage availability period increased in model grassland (July-Dec.) in comparison to natural grassland (July-Oct).
14. Western Regional Research Station (WRRS,) Avikanagar-Soda village, Rajasthan: Model grassland has been developed on common property resources on 70 ha in village Soda, Tonk(Rajasthan) with collaboration of Jal Grahan Samiti, Soda and Indian Institute of Rural Development(NGO). Grassland was established with improved planting materials of Anjan grass,

Dhaman grass, Dinanath grass, Stylosanthes hamata and fodder trees Subabul, Ardu and Neem.

15. The Jal Grahan Samiti, Chainpura get motivated after visiting grassland development activities at Soda village. About 20 ha land was provided by farmers and it was protected by digging of trench with financial support of IIRD. During kharif 2015 plantation of free saplings was done and Anjan/dhaman grass was seeded in inter-spaced area.
16. Orchha, Tikamgarh, M.P. has developed in grassland in 25ha. Area in Lotna block, Forest Sanctuary orchha in 2015.
17. At ten selected goushala established during 2014 and grass is being used under cut and carry system. At three locations, grass seed was also collected and it was used for sowing larger area. It was also endured to purchase the grass seed under participatory seed production programme. The other stake holders of nearby area will be exposed/ trained for grassland development and seed production as well."

1.13 The Committee while noting the rapid increase in the number of livestock and diminishing area of grazing lands had recommended the Department to take up multiple cropping in land use adopting silvi-pastoral and horti-pastoral activities etc. The Department in its Action Taken Reply has informed about the National Agro-forestry Policy to promote agro-forestry in the country. It has also informed about taking up non-traditional fodder like azolla cultivation which takes little space for cultivation and gives large quantity of quality fodder. While the Department has issued advisory to the States in this regard, the Committee would like the Department to pursue its advisory and coordinate with all stake holders including State Governments to utilize huge land resources which fall under the category of open forests and area under horticulture orchards for growing fodder. Moreover, the Committee, in their recommendation, felt the need to involve unused land under the Railways and Defence for utilization for development of fodder. The Committee, therefore, reiterate their earlier recommendation and urge the Department to take up the issue of optimum utilization of land resources for fodder development with all seriousness and would like to be apprised of the progress made by the Department on various fronts and actions taken, in this regard.

D. FUNDING OF THE COMPONENTS OF SUB MISSION ON FEED AND FODDER DEVELOPMENT

Recommendation (Serial No. 05)

1.14 The Committee had observed/ recommended as under:-

"The Committee note that the Department has taken necessary steps to increase fodder production in various parts of the country by providing financial assistance to the States/UTs under Centrally sponsored National Livestock Mission with a Sub Mission on Feed and Fodder Development. The Committee also note that from 28th Oct 2015, the funding of the components has been changed to the sharing ratio of 60:40 between the Centre and the States for those schemes for which the Central share is higher. However, for those scheme for which the Central share is 60% or lower the same will continue as per the existing Guidelines. Further, for the eight North-Eastern and three Himalayan States this ratio of sharing between Central and State will be 90:10. It is clarified that in these eight North Eastern States and three Himalayan States for those schemes for which the Central Share was 90% or lower the same will continue as per the existing Guidelines. Similarly for Union territories, the Centrally Sponsored Schemes will be funded 100 percent by the Central Government except for those schemes for which the Central share was lower than 100%, the same will continue as per the existing Guidelines. During the evidence, the Secretary of the Department informed the Committee that subsidy is granted on manual as well as on power driven chaff cutters. While 75 % subsidy is being granted on manual driven chaff cutter, the same is 50 % on power driven chaff cutter. There is no doubt that power driven chaff cutter has given the farmers the convenience to chop fodder for livestock with ease and has also saved their time and the labour involved in the process, particularly those women fold who are involved therein. The time saved by using power driven chaff cutter could be utilised by them for their other activities. However, the Committee still feel that there are certain things in the processing of chopping of fodder which could not be done without the help of manpower. The

Committee, therefore, recommend that power driven chaff cutter may also be given subsidy to the extent of 75% as being given on manual driven chaff cutter as also assured by the Secretary of the Department on the issue."

1.15 The Department in its Action Taken Reply has stated as under:-

"The department has launched National Livestock Mission in 2014-15 with a Sub Mission on Feed and Fodder Development. The financial assistance is being provided to the States and UTs for feed and fodder development under the following components.

- 1) Fodder Production from Non-forest wasteland/rangeland/grassland/non-arable land
- 2) Fodder production from Forest land
- 3) Fodder Seed Procurement/ Production & Distribution
- 4) Introduction of Hand Driven Chaff-Cutter
- 5) Introduction of Power Driven Chaff-Cutter
- 6) Distribution of low capacity, tractor mountable Fodder Block Making units, hay bailing machines/reapers/forage harvesters
- 7) Establishment of silage making Units
- 8) Establishment of by-pass protein production units
- 9) Establishment of Area Specific Mineral Mixture / Feed Pelleting/ Feed Manufacturing Unit
- 10) Establishment/modernization of Feed Testing Laboratories

Funds released under the Sub Mission-Feed & Fodder Development of National Livestock Mission

Year	Funds allocated	Funds Released (Rs in crore)
2014-15	111.00	47.68
2015-16	121.00	16.85
2016-17	137.00	34.15 (till 6.3.2017)

The subsidy on power driven chaff cutter is being shared between Centre and State government in the ratio 50:50 due to limited availability of funds at the Centre."

1.16 The Committee while noting that the Department had taken necessary steps to increase fodder production by providing financial assistance to the States/UTs under the National Livestock Mission, had recommended that the Department work towards reducing manpower in the process of chopping fodder, besides the current subsidies being given to power driven as well as manual chaff cutters. The Department in its Action Taken Reply has informed that financial assistance is being provided to States and UTs for feed and fodder development under various components and that subsidy on power driven chaff cutters is being shared between Centre and State government in the ration 50:50 due to limited availability of funds at the Centre. The Committee are, however, concerned to note that no concrete action has been taken by the Department in this direction. The Committee therefore reiterate their earlier recommendation that the Department give subsidy to the extent of 75% on power driven chaff cutters as being given on manual driven chaff cutters and that the Department also look into reducing the dependence on manual labour for chopping of fodder.

E. ADDITIONAL FODDER DEVELOPMENT PROGRAMME

Recommendation (Serial No. 13)

1.17 The Committee had observed/ recommended as under:-

"The Committee note that the Additional Fodder Development Programme (AFDP), a sub-scheme of Rashtriya Krishi Vikas Yojana (RKVY), aims at mitigating the adverse impact of drought on fodder production by providing financial and technical assistance to farmers undertaking fodder cultivation. The Committee are, however, displeased with the fact that the Department has not succeeded in encouraging State to purchase high yielding variety fodder seeds from the Regional Fodder Stations (RFS) that have been set up in different agro-climatic zones. The Committee, therefore, recommend that the Department persuade States to purchase high yielding variety fodder seeds from the Regional Fodder Stations and to adhere to the advisory issued to the States and UTs from time to time so that AFDP can perform successfully while using land resources optimally, adopting suitable crop combinations, improving

grasslands / wastelands, conserving and utilizing crop residue and strengthening extension activities etc. Furthermore, the role of private sector in equipment, financing and commercial feed and fodder production needs to be assessed and harnessed to aid AFDP and other such programmes aimed at fulfilling the need for fodder and providing equipment to farmers and livestock owners undertaking fodder cropping. The Committee also note that as per the prevailing AFDP Guidelines, farmers in the drought affected districts/blocks are provided assistance at the rate of Rs.3200/- per hectare as per cost norms for a maximum area of 2 ha per beneficiary for taking up additional production of fodder in these districts/blocks. The Committee feel that assistance of Rs.3200/- per hectare does not seem to be adequate and therefore, desire that said assistance needs to be raised suitably. In this context, the Committee would like to know the number of farmers who have been given such financial assistance and the benefits accrued as a result therefor since inception of the programme. The Committee also urge the Department to raise awareness about the convergence of fodder schemes with MGREGA Scheme, so that the Department can fulfill twin objectives of attaining self sufficiency in fodder as well as generating gainful employment opportunities for the rural masses. Furthermore, the Department also needs to formulate a action plan to make fodder cropping a profitable enterprise. The Committee would like to be apprised of the actions initiated by the Government in this direction."

1.18 The Department in its Action Taken Reply has stated as under:-

1. DAC&FW has launched an Additional fodder Development Programme (AFDP) as a sub Scheme of Rashtriya Krishi Vikas Yojana(RKVK) across the country to accelerate fodder production, its availability throughout the year and mitigating adverse impact of drought on livestock particularly in drought affected districts/blocks. Under this programme kits of high yielding fodder varieties are distributed amongst farmers for fodder production through respective State Governments. Seeds of fodder are procured by State Governments from established Seed Companies as per their policy and priority. However in line of recommendations and also to encourage State for purchase of high yielding variety fodder seeds from the Regional

Fodder Stations(RFS), State Governments are advised to give top priority in procuring seeds of various fodder crops developed by Regional Fodder Stations(RFS). KVKS also may be involved by Department of Animal Husbandry, Dairying & Fisheries (DAHD&F) for front line demonstration for HYV of fodder seeds development by RFS so that demand for seeds of RFS is met by farmers themselves. AFDP programme is primarily implemented by State's Animal Husbandry Department, therefore, DAHD&F may also advise State Departments suitably.

2. Private sectors have also developed many varieties of high yielding fodder crops which may also be promoted keeping in view its nutritional value and ensuring supply of quality fodder to meet the demand of livestock sector. In so far as providing equipment to farmers and livestock owners are concerned, DAC&FW is already providing subsidy to farmers for purchasing farm equipments including chaff-utter etc. under Sub Mission of Agriculture Mechanization (SMAN).
3. Since inception of the AFDP 5605768 Nos of farmers have been benefitted and financial assistance of Rs.632.66 crores have been provided up to 16.02.2017. State-wise details are given in Annexure-II.
4. Ministry of Rural Development- As per the para 2.5.2.1 of the annual Master Circular issued by the Ministry, Pasture development is a permissible work as mentioned under category A,(vi) Pasture Development; perennial grasses like stylo etc. And under Category B, iv, Paature Development perennial grasses like stylo, vetiver etc. In the category of Drought proofing works of MGNREGA, under Grass and Development and Silvipasture. As on 20th Jan 2017, a total of 2043 number of works relating to Grassland development and silvipasture are completed and 1205 works ongoing in 25 States/UTs. A State-wise details are given in Annexure-I."

1.19 While taking note of the objectives of the Additional Fodder Development Programme (AFDP), the Committee had expressed their displeasure at the failure of the Department in encouraging States to purchase high yielding variety fodder seeds from the Regional Fodder Stations (RFS) that have been set up in different agro-climatic zones. The Department in its Action Taken Reply informed the Committee that the AFDP Programme is primarily implemented by the State's Animal Husbandry Department, therefore the

DAHDF may advise State Departments suitably. It also stated that many varieties of high yielding fodder crops had been developed by private sectors which could be promoted, in order to meet the demand of quality fodder in the livestock sector. The Committee, however, feel that more needs to be done to achieve the twin objective of attaining self sufficiency in fodder as well as generating gainful employment opportunities for the rural masses. The Committee therefore, reiterate their earlier recommendation that the Department needs to formulate an action plan to make fodder cropping a profitable enterprise and also focus on bridging the gap between demand and supply of availability of fodder in the country. The Committee would like to be apprised of the actions initiated by the Department in this regard.

F. GENDER PERSPECTIVE IN ANIMAL HUSBANDRY

Recommendation (Serial No. 14)

1.20 The Committee had observed/ recommended as under:-

"The Committee note that the National Agriculture Policy formulated in 2000 accorded high priority to recognition and mainstreaming of women's role in agriculture and highlighting incorporation of 'Gender Issues' in the agriculture development agenda. The Committee also note that within the overall mandate, goals and objectives, the DAHDF places special emphasis on women participation and contribution in the Animal Husbandry, Dairying and Fisheries Sector. While appreciating the emphasis of the Department, the Committee urge them to take this forward by creating more opportunities for women in the Sector and involving more number of women in the workforce by way of MGNREGA component of construction works under the Sub Mission, by training women into silage making, providing higher subsidies for women using chaff cutters, both power and hand driven, by aiding formation of women self help groups which are able to take up entrepreneurial activities in the field of cattle rearing, fodder storage, milk cooperatives etc. Taking forward the work of Krishi Vigyan Kendra (KVKs) in training women in activities like fodder management, wasteland development etc. and helping them form Self Help

Groups (SHGs), the Department may very well emulate the success of cooperatives in the field of feed and fodder development which will not only have a positive impact on the livestock but also foster dairy development in the long run. The Committee, therefore, recommend that the Department may work out plans drawing more and more women folk into the Animal Husbandry, Dairying and Fisheries sector and set an example of opening up gainful and profitable employment opportunities and bringing about gender balance in the workforce in the agriculture sector, particularly in the sector of Animal Husbandry, Dairying and Fisheries. The Committee would like to apprised of the initiatives taken by the Government in this regard."

1.21 The Department in its Action Taken Reply has stated as under:-

"At least 16.2% of the funds are released for SC beneficiaries including women by the department. Further, it is ensured that by the respective State Governments, where sanctions have been made under the Special Component Plan for SCs (SCPSC), the funds should be used only for the SC beneficiaries. However, State Governments may also strive, as far as possible, to cover physically 8%, 30% and 3% Scheduled Tribe, Women and physically challenged/ differently-abled persons/ farmers / beneficiaries, respectively from the General component until specific budget heads are created."

1.22 The Committee are concerned to note that the Department has failed to take adequate measures in the direction of incorporating gender perspective in animal husbandry so as to make it an empowering enterprise for the women folk as well. Moreover, the Department in its Action Taken Reply, is silent over the issue of including women from all sections of the society to participate in economic activities in the sector of animal husbandry and has informed that sanctions have been made only for SC beneficiaries under the Special Component Plan. The Committee, however, are of the view that such benefits need to be provided to all women across sections and caste barriers and States must be mandated to put in place a mechanism to ensure this. The Committee therefore, reiterate their earlier recommendation that the Department modify the current funding pattern to extend the Special Component Plan, which currently includes only SC beneficiaries, to all women beneficiaries and that the State

Governments be mandated to put in place a mechanism to ensure that provisions for such funds to encourage the weaker sections of the society to participate in animal husbandry, dairying and fisheries activities are made and implemented effectively. The Committee would like to be apprised of the initiatives taken by the Department in this regard.

CHAPTER - II

OBSERVATIONS/RECOMMENDATIONS THAT HAVE BEEN ACCEPTED BY THE GOVERNMENT

NEED FOR INCREASING AVAILABILITY OF FEED AND FODDER:

(Recommendation Para No. 1)

The Committee note that availability of adequate quality of feed and fodder for livestock is essential for improving livestock productivity. However, the Committee are constrained to note that there is substantial shortage of feed and fodder in the country. As per the estimates of National Institute of Animal Nutrition and Physiology (NIANP), the deficit in the requirement and availability of Dry Fodder, Green Fodder and Concentrates during 2015 was to the extent of 21 MT, 26 MT and 34 MT which will increase further to 23 MT, 40 MT and 38 MT respectively by the year 2025. This shortage is due to increasing pressure on land for growing food grains, oil seeds and pulses and inadequate attention being given to the production of fodder crops. Further, on account of diversified use of agricultural residues, the grazing lands are gradually diminishing. The area under fodder cultivation is also limited. Majority of the grazing lands have either been degraded or encroached upon restricting their availability for livestock grazing. The area under fodder cultivation is only about 4% of the cropping area, and it has remained static for a long period of time. According to the Department, owing to the importance of food crops and other cash crops, it is very unlikely that the area under fodder cultivation would increase substantially. While the availability of feed and fodder has improved in the last decade, the Committee note that still a lot is required to be done to bridge the gap between the demand and availability of fodder in the country, particularly during the lean periods and crisis situations. Needless to say, livestock is a major source of livelihood for a majority of the rural population in the country. The contribution of livestock to the household income of the farmers cannot be ignored. It generate sustainable livelihood for small and marginal farmers in the country. Thus, livestock is an important and integral part of Indian agriculture and rural economy. However, livestock husbandry cannot be sustained without addressing the development of feed and fodder resources. It is, therefore, imperative that forage production and its quality may be augmented to improve productivity of livestock. In this context, the Committee note that the

Government has launched "Sub Mission on Fodder and Feed Development "under the National Stock Mission from 2014-15 to comprehensively address the feed and fodder issue. The Government has also issued advisory on measures to be taken for increasing availability of fodder to mitigate the effect of natural calamities. However, the Committee feel that the Department being the nodal agency need to make concerted and coordinated efforts ensuring that the shortage of feed and fodder in the country is addressed effectively and comprehensively. The Committee, therefore, would like the Department to take up the issue with all its seriousness and coordinate with all stakeholders on the issue. The Committee would also like to be apprised of the initiatives undertaken by the Government in this regard and the progress made therein.

Reply of the Government

The Department of Animal Husbandry, Dairying and Fisheries has launched National Livestock Mission in 2014-15 with a Sub Mission on Feed and Fodder Development. The financial assistance is being provided to the States and UTs for feed and fodder development under the following components.

- xi. Fodder Production from Non-forest wasteland/rangeland/grassland/non-arable land
- xii. Fodder production from Forest land
- xiii. Fodder Seed Procurement/ Production & Distribution
- xiv. Introduction of Hand Driven Chaff-Cutter
- xv. Introduction of Power Driven Chaff-Cutter
- xvi. Distribution of low capacity, tractor mountable Fodder Block Making units, hay bailing machines/reapers/forage harvesters
- xvii. Establishment of silage making Units
- xviii. Establishment of by-pass protein production units
- xix. Establishment of Area Specific Mineral Mixture / Feed Pelleting/ Feed Manufacturing Unit
- xx. Establishment/modernization of Feed Testing Laboratories

Funds released under the Sub Mission-Feed & Fodder Development of National Livestock Mission

Year	Funds Released (Rs in crore)
2014-15	47.68
2015-16	16.85
2016-17 till 6.3.2017	34.15

6. The Department of Agriculture Co-operation & Farmers Welfare under National Food Security Mission (NFSM) Programme several components are being implemented for production of Rice, Wheat, Pulses and Course Cereals. Farmers are encouraged to grow newly released varieties of the crops for higher production & productivity, which inturn increases the availability of fodder to cattle and other ruminants. This is achieved by cluster demonstration, seed distribution of newly released varieties. The activities under the component cultivation of coarse grains and dual purpose crops is taken under the National Food Security Mission (NFSM). The State Governments, for coarse grains and dual purpose crops approach the Department of Agriculture Co-operation & Farmers Welfare with their project proposals. The following activities are under this component:
 - v. Seed production under contract farming with buy back arrangement with the State Government / seed supplying agency
 - vi. Buy back of the seed by the State Government / seed supplying agencies
 - vii. Distribution of the seeds to the farmers free of cost or at subsidized rates
 - viii. Support for land levelling, irrigation, etc.
7. Additional Fodder Development Programme –a sub scheme of Rashtriya Krishi Vikas Yojna(RKVV) is also in operation since 2014-15 and is continuing at present. Funds is being released to the States/UTs during the period of drought for fodder development and thereby livestock sustainability.
8. Rashtriya Krishi Vikas Yojna(RKVV) is also in operation in the Department of Agriculture Co-operation and Farmers Welfare. The scheme also supports seed production and other fodder development programme as proposed by the States. These are also supported by the Department of Animal Husbandry, Dairying and Fisheries.
9. Further States have their own fodder production programme. Both for normal time and during natural calamities like drought, flood, hailstorm etc.

Comments of the Committee

For comments of the Committee please refer to Para No. 1.7 of Chapter I of this Report.

ALLOCATION OF FUNDS

(Recommendation Para No. 2)

The Committee note that States have been given liberty to choose the development of any or all the four Sub Missions under the National Livestock Mission (NLM) with a restriction of availability of budget with the Department. The tentative budget outlay to each State/UT is conveyed in the month of April each year so that they can formulate the plans best suited to their State/UT. Afterword, the plan is received in the Department and processed for release of budget to the State/UT. The Committee are of the opinion that the practice of tentative allocation of funds to States should be done away with and instead need based funds as per the requirement of the States be allocated by the Department. However, the Committee are anguished to note that funds being allocated to the Sub Missions under NLM in the States were woefully inadequate during the years 2014-15 and 2015-16. This has resulted in meager allocation to the Sub Missions in 2014-15, with the situation worsening in the year 2015-16 when no separate allocations to the Sub Missions could be made due to very less funds and the budget of 2015-16 was used to meet liabilities of the previous year. Also, funds released under the Sub Mission on Fodder and Feed Development in the years 2014-15 and 2015-16 are 47.63 crores and 16.86 crores, respectively. Needless to say, insufficient funds have severely hampered the implementation of physical and financial targets of the Sub Mission on Fodder and Feed Development. The Department has also accepted the fact that the implementation of the Sub Mission has been hampered by the less allocation of funds as against the approved outlay. According to the Department, owing to very low allocations of funds for NLM, overall impact of the schemes of Sub Mission could not be ascertained from the States/UTs as the States/UTs could not be given sufficient funds or no funds at all for implementation. In the absence of such study, the Committee feel that the

Department would not get the opportunity to undertake corrective interventions to reorient its schemes/Sub Missions for the benefit of intended beneficiaries. Deprecating this sordid state of affairs, the Committee, therefore, recommend that the Department should take up this issue with the Ministry of Finance and impress upon them to provide adequate funds so that schemes/Sub Missions of the National Livestock Mission, particularly the Sub Mission on Fodder and Feed Development, do not suffer for want of funds.

During the course of evidence, the Secretary of the Department informed the Committee that a National Perspective Plan is being formulated which would also be circulated to the States asking them to furnish integrated Plan so that funds could be allocated accordingly within the limited resources of the Central Government. The Committee, therefore, recommend that the formulation of National Perspective Plan as proposed by the Government be expedited in consultation with all States/UTs so that funds could be allocated to them as per their demand for effective implementation of schemes/Sub-Missions undertaken by them. The Committee would like to be apprised of the actions taken and progress made by the Department in this regard.

Reply of the Government

Department of Economic Affairs, Budget Division Ministry of Finance has mentioned that the allocation for National Livestock Mission is being progressively increased as under:

Rs in Crore

	BE 2015-16	BE2016-17	RE 2016-17	BE 2017-18
National Livestock Mission	106.37	292.00	250.00	310.00

Further, the overall allocation in respect of Department of Animal Husbandry Dairying & Fisheries has also increased as under

Rs in Crore

BE 2015-16	BE 2016-17	RE 2016-17	BE 2017-18
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1585.43	1881.51	1994.00	2371.00
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Department is pursuing for additional allocation of funds with Ministry of Finance. Hon'ble Agriculture Minister has written to Hon'ble Union Finance Minister.

5. Regarding National Perspective Plan as a strategy department has prioritised development of Gochar and waste lands for augmenting fodder availability in the country. For this the State Governments have been requested to develop Gochar lands by taking assistance under Sub Mission on Feed and Fodder Development of National Livestock Mission. This year (2016-17) five States viz Chhattisgarh, Odisha, Jharkhand, Rajasthan and Gujarat have been given financial assistance for development of the Gochar land. Further the success model of Gochar land development in Dharmaj village in Anand District of Gujarat has been sent to all States for replication.
6. Department is coordinating with other departments like Department of Agriculture, Cooperation and Farmers Welfare, Department of Agricultural Research and Education, Ministry of Panchayati Raj, Ministry of Environment and Forests and Climate Change, Ministry of Rural Development to synergize their activities for enhancing fodder production.
7. Department of Agriculture, Cooperation and Farmers Welfare has brought out the National Agroforestry Policy in 2014 to promote Agroforestry in the country. To take forward the recommendation of National Agroforestry Policy a Sub-Mission on Agroforestry(SMAF) under the ambit of National Mission for Sustainable Agriculture (NMSA) has been made operational from 2016-17. Different Agroforestry models includes sustainable Agri-silvicultural systems, Silvi-pastoral systems, Agro-silvi-pastoral system etc. are supported under the programme. SMAF will be expanded the coverage under tree plantation in arable land suitable to specific agro ecological, Culturable wasteland and land use condition that provide livelihood, environmental & bio-diversity protection and additional income sources for farmers. SMAF includes both traditional and modern land-use systems where trees are managed along with crops and/or animal production systems in a farming system approach. Perennial tree species useful for fodder production and which are liberalized under transit regulations for transport of timber may also be promoted under the SMAF.

8. Ministry of Rural Development- As per the para 2.5.2.1 of the annual Master Circular issued by the Ministry, Pasture development is a permissible work as mentioned under category A,(vi) Pasture Development; perennial grasses like Stylo etc. And under Category B, (iv), Paature Development perennial grasses like Stylo, Vetiver etc. In the category of Drought proofing works of MGNREGA, under Grassland Development and Silvipasture. As on 20th Jan2017, a total of 2043 number of works relating to Grassland development and silvipasture are completed and 1205 works on going in 25 States/UTs. A state-wise detail is given in **Annexure-I**.

Ministry of Agriculture and Farmers Welfare
(Department of Animal Husbandry, Dairying and Fisheries)
F.No.2-16/2016-AHT/FF dt.14th March 2017

Comments of the Committee

For comments of the Committee please refer to Para No. 1.10 of Chapter I of this Report.

OPTIMUM UTILISATION OF LAND RESOURCES FOR FODDER DEVELOPMENT

(Recommendation Para No. 3)

The Committee note that the number of livestock is growing rapidly but the grazing lands are gradually diminishing due to pressure on land for agricultural and non-agricultural uses. According to the Department, the need of the time is to adopt the practice of land use with multiple crops in a sustainable manner. Adopting Silvi-pastoral and Horti-pastoral models suitable to the area can help in substantially enhancing the availability of forage for the livestock. About 29 million ha area in the country falls under the category of open forests with less than 0.4 canopy density which can be developed with fodder trees. This huge land resource can be utilized for growing fodder, mostly as an under-storey on the partially shaded ground without affecting standing trees. Similar development is also possible in the area under horticulture orchards. While the forest department can undertake Silvi-pastoral

plantations through the Joint Forest Management Committees, the Horti-pastoral activities can be initiated by incentivizing the farmers who are owners of the orchards. While the Department has issued advisory to the States in this regard, the Committee would like the Department to pursue its advisory and coordinate with all stake holders including State Governments to utilize huge land resources which fall under the category of open forests and area under horticulture orchards for growing fodder. Barren land or non-forest wasteland or non-arable land across the country should also be utilized for multi-perennial fodder crops for which adequate incentives should be given to the farmers. In this context, the Committee strongly feel that the unutilised land of Railways and Defence should also be utilised for cultivation of fodder crops. It was pointed out by the Committee that during British regime, unutilized land along both sides of the railway lines were being used either for grazing or for production of fodder. According to the Department, the matter was taken up at the highest level and after lot of deliberations over the issue, it was decided that the unutilised land of Railways and Defence could not be utilised for development of fodder. Nevertheless, the Committee still feel that the issue needs to be re-looked in to by all the stakeholders as a large chunk of Railways and Defence land is being encroached upon by unscrupulous elements. The Committee would like to apprised of the action taken by the Department in this regard.

Reply of the Government

18. Department of Agriculture, Cooperation and Farmers Welfare has brought out the National Agroforestry Policy in 2014 to promote Agroforestry in the country. To take forward the recommendation of National Agroforestry Policy a Sub-Mission on Agroforestry(SMAF) under the ambit of National Mission for Sustainable Agriculture (NMSA) has been made operational from 2016-17. Different Agroforestry models includes sustainable Agri-silvicultural systems, Silvi-pastoral systems, Agro-silvi-pastoral system etc. are supported under the programme. SMAF will be expanded the coverage under tree plantation in arable land suitable to specific agro ecological, Culturable wasteland and land use condition that provide livelihood, environmental & bio-diversity protection and additional income sources for farmers. SMAF includes both traditional and modern land-use systems where trees are managed along with crops and/or animal production systems in a farming system approach. Perennial tree species useful for fodder production and

which are liberalized under transit regulations for transport of timber may also be promoted under the SMAF.

19. In the State like Punjab establishment of commercial dairy farms with high producing cattle and buffaloes has resulting in higher demand for green fodder consequently resulting in dairy farmers taking up large scale cultivation of fodder maize crop either on their own land or on leased land.
20. Regarding utilization of railway land- railway tracks are normally laid on an elevated bank with very little space left beyond the shoulder of the ballast. Vegetations on these narrow strips of land is not encouraged as it attracts cattle and other livestock for grazing, who cross the track from one side to the other and get run-over by trains and on many occasions are reasons for derailments/damage to the under-gear or locomotives.
21. Gochar land Development- the State Governments have been requested to develop Gochar lands by taking assistance under Sub Mission on Feed and Fodder Development of National Livestock Mission. This year (2016-17) five States viz Chattisgarh, Odisha, Jharkhand, Rajasthan and Gujarat have been given financial assistance for development of the Gochar land. Further the success model of Gochar land development in Dharmaj village in Anand District of Gujarat has been sent to all States for replication.
22. The Ministry of Panchayati Raj has been requested to identify the Gochar land for developing and to rope in the Panchayats in the process. It has been mentioned that MGNREGA funds may also be dovetailed as labour component.
23. Eight Regional Fodder Stations situated in different agro climatic zones of the country are doing extension work related to dissemination of knowledge related to all aspects of fodder production, utilization, storage, seed production etc.
24. Non-traditional fodder like azolla cultivation is being promoted, which takes very little space for cultivation at the same time gives large quantity of quality fodder.
25. Fodder cultivation activities along with feed production activities proposed by State/UTs under RKVY are supported by the department.
26. All the proposals of import of quality varieties of fodder seeds in country are supported by the department.
27. Proper post harvest utilisation of fodder is being promoted under Sub Mission on Feed and Fodder Development of National Livestock Mission so that there is no wastage. As per report nearly 30% fodder is saved by chaffed fodder feeding

habits. Silage making, bailing and fodder block making are supported as storage devices so the fodder is available during lean periods.

28. As many manufactures are producing feed in the market. To ensure quality feed available department is supporting for establishment of feed testing laboratories.
29. Developed grassland in Bihar: IGFRI, Jhansi with support of Deptt. Of Forest, Govt. of Bihar: Developed 2 ha area in hilly degraded Forest of Gaya district in 2013. Established Guinea grass (*Panicum maximum*), Dinanath grass (*Pennisetum pedicillatum*), Hybrid Napier and *Stylosanthes hamata*.
30. An area of 5 ha. of natural/barren/degraded pastureland has been developed as model grassland in IGFRI, Jhansi. The productivity of developed model grassland increased from 11t/ha green forage (palatable and non-palatable) in natural to 29 t/ha (only palatable grasses and legumes within one year of interventions. In the developed model grassland grazing experiment of small ruminants has been initiated and initial data showed that the forage availability period increased in model grassland (July-Dec.)in comparison to natural grassland (July-Oct).
31. Western Regional Research Station (WRRS,) Avikanagar-Soda village, Rajasthan: Model grassland has been developed on common property resources on 70 ha in village Soda, Tonk(Rajasthan) with collaboration of Jal Grahan Samiti, Soda and Indian Institute of Rural Development(NGO). Grassland was established with improved planting materials of Anjan grass, Dhaman grass, Dinanath grass, *Stylosanthes hamata* and fodder trees Subabul, Ardu and Neem.
32. The Jal Grahan Samiti, Chainpura get motivated after visiting grassland development activities at Soda village. About 20 ha land was provided by farmers and it was protected by digging of trench with financial support of IIRD. During kharif 2015 plantation of free saplings was done and Anjan/dhaman grass was seeded in inter-spaced area.
33. Orchha, Tikamgarh, M.P. has developed in grassland in 25ha. Area in Lotna block, Forest Sanctuary orchha in 2015.
34. At ten selected goushala established during 2014 and grass is being used under cut and carry system. At three locations, grass seed was also collected and it was used for sowing larger area. It was also endured to purchase the grass seed under participatory seed production programme. The other stake holders of nearby area will be exposed/ trained for grassland development and seed production as well.

Comments of the Committee

For comments of the Committee please refer to Para No. 1.13 of Chapter I of this Report.

FRUITS AND VEGETABLES WASTES AS LIVESTOCK FEED

(Recommendation Para No. 7)

A significant percentage of fruits and vegetables like apple, tomato, potato, pineapple, carrots etc go as waste due to non-availability of market. Further, processing of fruits and vegetables and its packing, distribution and consumption also generate a huge quantity of fruit and vegetable wastes. The huge quantity of fruit and vegetable wastes can be effectively utilized as livestock feed, without effecting the palatability, nutrient utilization, health or performance of livestock. The effective and efficient utilization of fruit and vegetable wastes will reduce the cost of animal feeding thereby increasing farmers' profits and help in waste management and reduction of environmental pollution. For this purpose, suitable methods need to be adopted to conserve such resources so that these can be fed to the livestock throughout the year or specifically during the lean period of green fodder production. It was informed to the Committee that excess vegetable and fruits wastes like apple, tomato, potato, pineapple, carrots etc are used as feed resources in many places. The processing techniques/models are also available to convert or preserve them as good feed resources. In view of the foregoing, the Committee, therefore, recommend that conversion of fruit and vegetable wastes as an alternate of fodder resources may be vigorously promoted by the Department in coordination with all stakeholders including State Governments. The Committee also recommend that awareness may also be created amongst the farmers and those involved in the processing of fruits and vegetables. Further, technologies involved for producing quality forage from fruit and vegetable wastes may also be demystified to them .

Reply of the Government

- 1) Excess vegetables and fruits wastes like apple, tomato, potato, pineapple, carrots etc. are used as feed resources in many places. The processing techniques / models are also available to convert or preserve them as good feed resources.
- 2) Indian Council of Agriculture Research-National Institute of Animal Nutrition and Physiology, Bengaluru developed 'Pineapple fruit residue storage based total mixed ration for livestock feeding' and promoting the technology.
- 3) Area specific mineral mixtures for the State of Karnataka developed by ICAR-NIANP Bangalore. Another technology 'Feed asset software for least cost ration computation based on available food ingredients 'can be used to enhance the nutritive value of fodder. These technologies are available and can be further promoted at large scale. Feed additives (like bacterial culture, organic acids, calcium carbonate, fibrolytic enzymes, chelating minerals, amino acids, urea, molasses etc) are also available in the market to improve the nutritive value of green/dry forages.

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DEVELOPMENT OF HIGH YIELDING FORAGE-RICH FOOD CROPS

(Recommendation Para No. 8)

The Committee note that major high yielding fodder varieties of seeds developed by ICAR are being used by the States/ UTs regularly. It is also ensured that the funds provided by the Department under the component "Fodder Seed Procurement, Production and Distribution" are utilized by the States/ UTs for growing major high yielding fodder varieties. Private companies are also growing and importing fodder seeds and selling in the market. In this context, the Committee pointed out that earlier our crops used to be long, one part of which gave food grain and the remaining three parts was used as fodder for the livestock. But during the era of Green

Revolution, deliberate attempts were made by plant breeders and agro-scientists to release dwarf varieties of crops which although gave high yields and made us self-dependent in production of grain, the same seriously affected fodder production in the country. The Committee regret to note that the agro-scientists ignored this aspect conveniently without addressing the problem. While it was essential to develop seeds for dwarf varieties of crops for making the country self-dependent in the matter of food, at the same time, it was also essential for the agro-scientists to think comprehensively and in an integrated manner for development of varieties of crops which would have given high quality of fodder and yield for livestock without any reduction in production of food grain. The Committee, therefore, recommend that agro-scientists may be encouraged to develop varieties of food crops having high forage value without affecting yield of food grain and their efforts in this regard may also be supplemented with adequate funding. Further, vigorous efforts may also be made for creating awareness amongst the farmers for selection of new varieties of forage-rich food crops replacing the old varieties.

Reply of the Government

1. The development of dual purpose varieties which can yield enough green fodder and sufficient amount of grain is in progress in case of Maize, Sorghum, Oats and Pearl Millet etc. Dual purpose wheat variety VL616 and VL 829 are developed that can be harvested at 50-55 days and later for grain at maturity without significant yield loss. HD-2969, a very popular wheat variety produce good amount of quality straw also.
2. The opportunity for area expansion under fodder crops seems to be very remote. Hence, preference is being given to grow dual purpose crops (Maize, Sorghum, Bajra, Oat, Barley etc.) in the existing cropping systems to get substantial quantity of forage along with main products (grains). Similarly vegetable crops like turnip, carrot, pea, cowpea, gaur, cauliflower etc. and commercial crops like sugarcane are also used.
3. Further following promotional activities are also taken up:
 - I. Developed grassland in Bihar: IGFRI, Jhansi with support of Deptt. Of Forest, Govt. of Bihar: Developed 2 ha Aea in hilly degraded Forest of Gaya district in

2013. Established Guinea grass (*Panicum maximum*), Dinanath grass (*Pennisetum pedicellatum*), Hybrid Napier and *Stylosanthes hamata*.

II. An area of 5 ha. of natural/barren/degraded pastureland has been developed as model grassland in IGFRI, Jhansi. The productivity of developed model grassland increased from 11t/ha green forage (palatable and non-palatable) in natural to 29 t/ha (only palatable grasses and legumes within one year of interventions. In the developed model grassland grazing experiment of small ruminants has been initiated and initial data showed that the forage availability period increased in model grassland (July-Dec.)in comparison to natural grassland (July-Oct).

III. Western Regional Research Station (WRRS,) Avikanagar-Soda village, Rajasthan: Model grassland has been developed on common property resources on 70 ha in village Soda, Tonk(Rajasthan) with collaboration of Jal Grahan Samiti, Soda and Indian Institute of Rural Development(NGO). Grassland was established with improved planting materials of Anjan grass, Dhaman grass, Dinanath grass, *Stylosanthes hamata* and fodder threes Subabul, Ardu and Neem.

IV. The Jal Grahan Samiti, Chainpura get motivated after visiting grassland development activities at Soda village. About 20 ha land was provided by farmers and it was protected by digging of trench with financial support of IIRD. During kharif 2015 plantation of free saplings was done and Anjan/dhaman grass was seeded in inter-spaced area.

V. Orchha, Tikamgarh, M.P. has developed in grassland in 25ha. Area in Lotna block, Forest Sanctuary orchha in 2015.

VI. At ten selected goushala established during 2014 and grass is being used under cut and carry system. At three locations, grass seed was also collected and it was used for sowing larger area. It was also endured to purchase the grass seed under participatory seed production programme. The other stake holders of nearby area will be exposed/ trained for grassland development and seed production as well.

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WASTELANDS FOR FORAGE CULTIVATION

(Recommendation Para No. 09)

The Committee note that wasteland like waterlogged areas, saline soils, sodic soils etc can also be utilized for cultivation of fodder varieties suitable for such areas. The Committee also note that the Department is implementing the component of grassland development in non-forest waste land, range land, grass land, non-arable land and forest land under NLM with 75% Central grant. States can avail benefit under the scheme. Besides, other marginal lands like roadside land, canal side land, land along the railway tracks, etc., may also be utilized for forage cultivation. The forest department can also undertake Silvi-pastoral plantations in degraded forest areas through the Joint Forest Management Committees for use of the communities. Considering the limitations of traditionally cultivated fodder crops, the Committee are of the view that it is imperative to introduce non-traditional fodder crops which can be grown on wastelands. Fast growing shrubs and trees need to be grown which can be lopped regularly as fodder. Fodder shrubs, trees and grasses which are suitable for wastelands and tolerant to drought and harsh soil conditions and resistant to pests and diseases need to be developed. The Committee feel that development of these lands for forage production may not only ensure enhanced supply of forage but also help in conserving the natural resources and recharging ground water, while improving the bio-diversity. The Committee, therefore, recommend that a holistic plan may be formulated for development of wasteland for its utilization for cultivation of fodder varieties in coordination with all stakeholders including States. The Committee would like to be apprised of the initiatives undertaken by the Department in this regard.

Reply of the Government

1. Department of Agriculture, Cooperation and Farmers Welfare has brought out the National Agroforestry Policy in 2014 to promote Agroforestry in the country. To take forward the recommendation of National Agroforestry Policy a Sub-Mission on Agroforestry(SMAF) under the ambit of National Mission for Sustainable Agriculture (NMSA) has been made operational from 2016-17. Different Agroforestry models includes sustainable Agri-silvicultural systems,

Silvi-pastoral systems, Agro-silvi-pastoral system etc. are supported under the programme. SMAF will be expanded the coverage under tree plantation in arable land suitable to specific agro ecological, Culturable wasteland and land use condition that provide livelihood, environmental & bio-diversity protection and additional income sources for farmers. SMAF includes both traditional and modern land-use systems where trees are managed along with crops and/or animal production systems in a farming system approach. Perennial tree species useful for fodder production and which are liberalized under transit regulations for transport of timber may also be promoted under the SMAF.

2. In the State like Punjab establishment of commercial dairy farms with high producing cattle and buffaloes has resulting in higher demand for green fodder consequently resulting in dairy farmers taking up large scale cultivation of fodder maize crop either on their own land or on leased land.
3. Regarding utilization of railway land- railway tracks are normally laid on an elevated bank with very little space left beyond the shoulder of the ballast. Vegetations on these narrow strips of land is not encouraged as it attracts cattle and other livestock for grazing, who cross the track from one side to the other and get run-over by trains and on many occasions are reasons for derailments/damage to the under-gear or locomotives.
4. Gochar land Development- The State Governments have been requested to develop Gochar lands by taking assistance under Sub Mission on Feed and Fodder Development of National Livestock Mission. This year (2016-17) five States viz Chattisgarh, Odisha, Jharkhand, Rajasthan and Gujarat have been given financial assistance for development of the Gochar land. Further the success model of Gochar land development in Dharmaj village in Anand District of Gujarat has been sent to all States for replication.
5. The ministry of Panchayati Raj has been requested to identify the Gochar land for developing and to rope in the Panchayats in the process. It has been mentioned that MGNERGA funds may also be dovetailed as labour component.
6. Eight Regional Fodder Stations situated in different agro climatic zones of the country are doing extension work related to dissemination of knowledge related to all aspects of fodder production, utilization, storage, seed production etc.

7. Non-traditional fodder like Azolla cultivation is being promoted, which takes very little space for cultivation at the same time gives large quantity of quality fodder.
8. Fodder cultivation activities along with feed production activities proposed by State/UTs under RKVY are supported by the department.
9. All the proposals of import of all varieties of fodder seeds in country are supported by the department.
10. Proper post harvest utilisation of fodder is being promoted under Sub Mission on Feed and Fodder Development of National Livestock Mission so that there is no wastage. As per report nearly 30% fodder is saved by chaffed fodder feeding habits. Silage making, bailing and fodder block making are supported as storage devices so the fodder is available during lean periods.
11. As many manufacturers are producing feed in the market. To ensure quality feed available department is supporting for establishment of feed testing laboratories.

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ENHANCING NUTRITIVE VALUE OF FODDER

(Recommendation Para No. 10)

The Committee note that as the land area under fodder cultivation remaining static for the last few decades, there is an urgent need to work on enhancing the nutritive value of fodder as it has a significant bearing on the productivity of the livestock. Straws and cellulosic waste such as residues of cereals like paddy, sorghum, pearl millet, maize etc. which have poor nutritive value, can be enriched by treating with urea. The Department may seek the expertise of the National Institute of Animal Nutrition and Physiology (NIANP), Bengaluru in this regard. Production of straw-based feed pellets and focused nutrition for milch animals and their off-springs are also some of the steps that need to be adopted. There is also the need to ensure nutrition security in our livestock population as these contribute immensely to the food basket of the country and to identify feed and fodder that may cause harm to animals,

when consumed in the long run. The Committee would like to be apprised of the initiatives taken by the Government in this regard.

Reply of the Government

1. Area specific mineral mixtures for the State of Karnataka developed by ICAR-NIANP Bangalore. Another technology 'Feed asset software for least cost ration computation based on available food ingredients' can be used to enhance the nutritive value of fodder. These technologies are available and can be further promoted at large scale. Feed additives (like bacterial culture, organic acids, calcium carbonate, fibrolytic enzymes, chelating minerals, amino acids, urea, molasses etc.) are also available in the market to improve the nutritive value of green/dry forages.
2. The vegetables and fruits wastes like apple, tomato, potato, pineapple, carrots etc. are used as feed resources in many places. The processing techniques / models are also available to convert or preserve them as good feed resources.
3. ICAR-NIANP Bengaluru developed 'pineapple fruit residue storage based total mixed ration for livestock feeding' and promoting the technology.

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DISSEMINATION OF FORAGE-BASED RESEARCH INFORMATION

(Recommendation Para No. 11)

The Committee note that a significant research has been carried out by ICAR Institutes like Indian Grassland Fodder Research Institute (IGFRI), National Institute of Animal Nutrition and Physiology (NIANP) etc. to identify suitable forage crops, breed new varieties for large scale production of fodder. However, it is a matter of concern that even then there is significant gap between the demand and supply of fodder in the country and production of forage has not picked up on a massive scale to meet the demand of the farmers in times of need particularly during natural calamities. This calls for an in-depth study to understand and address the problem. The Committee are of the view that there is a wide communication gap between the forage development programme and the livestock extension department of the States. There is no

coordination between ICAR and Animal Husbandry department of the State. As a result, there is no free flow of information from either side. Agro-scientists need to interact with farmers to apprise their needs and develop suitable technologies and systems which can benefit them. It is imperative that there is regular interaction between ICAR/Department and stakeholders including the States. The Committee, therefore, feel that a well established communication network would help the agro scientists to understand the problem of the farmers of particular regions/areas and they in turn can offer suitable interventions. For this purpose, research units could be set up to promote on-farm studies and tests of technologies under field conditions. Research studies also need to be carried out in association with farmers' organizations, State Agriculture and Animal Husbandry Departments, Krish Vigyan Kendras. Further, Kisan Melas and seminars need to be organised on regular basis for dissemination of information and technologies to the intended beneficiaries. The Committee, therefore, recommend that a mechanism may be put in place to establish a vibrant communication between Agro scientists and the farmers to address the problems confronting them. The Committee would like to be apprised of the steps taken by the Department in this direction.

Reply of the Government

1. The ministry of Panchayati Raj has been requested to identify the Gochar land for developing and to rope in the Panchayats in the process. It has been mentioned that MNREGA funds may also be dovetailed as labour component.
2. Eight Regional Fodder Stations situated in different agro climatic zones of the country are doing extension work related to dissemination of knowledge related to all aspects of fodder production, utilization, storage, seed production etc.

Parameters	2014-15	2015-16	2016-17 Till 28.2.2017
Fodder Demonstrations(Nos)	10607	9685	10618
Trainings(Nos)	186	200	147
Farmers fair(Nos)	188	196	140

3. Further following promotional activities are also taken up:
 - I. Developed grassland in Bihar: IGFRI, Jhansi with support of Deptt. Of Forest, Govt. of Bihar: Developed 2 ha Aea in hilly degraded Forest of Gaya district in

2013. Established Guinea grass (*Panicum maximum*), Dinanath grass (*Pennisetum pedicellatum*), Hybrid Napier and *Stylosanthes hamata*.

II. An area of 5 ha. Of natural/barren/degraded pastureland has been developed as model grassland in IGFRI, Jhansi. The productivity of developed model grassland increased from 11t/ha green forage (palatable and non-palatable) in natural to 29 t/ha (only palatable grasses and legumes within one year of interventions. In the developed model grassland grazing experiment of small ruminants has been initiated and initial data showed that the forage availability period increased in model grassland (July-Dec.)in comparison to natural grassland (July-Oct).

III. Western Regional Research Station (WRRS,) Avikanagar-Soda village, Rajasthan: Model grassland has been developed on common property resources on 70 ha in village Soda, Tonk(Rajasthan) with collaboration of Jal Grahan Samiti, Soda and Indian Institute of Rural Development(NGO). Grassland was established with improved planting materials of Anjan grass, Dhaman grass, Dinanath grass, *Stylosanthes hamata* and fodder threes Subabul, Ardu and Neem.

IV. The Jal Grahan Samiti, Chainpura get motivated after visiting grassland development activities at Soda village. About 20 ha land was provided by farmers and it was protected by digging of trench with financial support of IIRD. During kharif 2015 plantation of free saplings was done and Anjan/dhaman grass was seeded in inter-spaced area.

V. Orchha, Tikamgarh, M.P. has developed in grassland in 25ha. Area in Lotna block, Forest Sanctuary orchha in 2015.

VI. At ten selected goushala established during 2014 and grass is being used under cut and carry system. At three locations, grass seed was also collected and it was used for sowing larger area. It was also endured to purchase the grass seed under participatory seed production programme. The other stake holders of nearby area will be exposed/ trained for grassland development and seed production as well.

4. Krishi Vigyan Kendras(KVKs) have taken up demonstrations on farmers field since 2014-15.The demonstrations are being carried out in a mission mode through 100 KVKs under 8 ATARIs across the country. The programme is being conducted with three distinct modules namely forage production from cultivated lands, forage

production from non-cultivated lands and fodder conservation and utilization. During 2014-15 and 2015-16, total 2316 demonstrations were carried out at farmers field which included 1428 on cultivated fodders, 503 on horti-pasture /silvi-pastures and 385 demonstrations on fodder conservation and utilization. During the year 2016-17, so far 364 demonstrations have been carried out on cultivated fodders.

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FODDER AND PASTURE MANAGEMENT

(Recommendation Para No. 12)

Grazing lands and pastures play an important role in the livestock economy of the country and the state. However, the Committee are anguished to witness the collapse of traditional agro-forestry practices and invasion of pastures and grazing lands by invasive species. Such instances have only added to the woes of the livestock owners and burdened the already limited fodder resources. Grazing lands are gradually diminishing due to pressure on land for agricultural and non-agricultural uses. Most of the grazing lands have either been degraded or encroached upon restricting its availability for grazing for livestock. The number of livestock is also growing rapidly in the country. Gradual collapse of traditional agro-forestry practices, sub-par performance of major fodder resources such as grasslands, wastelands, common fallows etc. and invasion of pastures and grazing lands by invasive alien plant species as well encroachment of pastures and their diversification for building purposes has only worsened the fodder situation of the country. The Committee feel that it is the need of the hour to conserve and preserve grasslands in the country. However, the absence of a nodal agency to coordinate and steer grassland and fodder development programmes within the country has led to lack of channelized efforts in this direction. The Committee, therefore, recommend that a holistic plan may be formulated in coordination with States for conservation and preservation of grassland for pasture in the country. The Committee would also like to be apprised of the initiatives taken by the Government in this direction.

Reply of the Government

1. Department of Agriculture, Cooperation and Farmers Welfare has brought out the National Agroforestry Policy in 2014 to promote Agroforestry in the country. To take forward the recommendation of National Agroforestry Policy a Sub-Mission on Agroforestry(SMAF) under the ambit of National Mission for Sustainable Agriculture (NMSA) has been made operational from 2016-17. Different Agroforestry models includes sustainable Agri-silvicultural systems, Silvi-pastoral systems, Agro-silvi-pastoral system etc. are supported under the programme. SMAF will be expanded the coverage under tree plantation in arable land suitable to specific agro ecological, Culturable wasteland and land use condition that provide livelihood, environmental & bio-diversity protection and additional income sources for farmers. SMAF includes both traditional and modern land-use systems where trees are managed along with crops and/or animal production systems in a farming system approach. Perennial tree species useful for fodder production and which are liberalized under transit regulations for transport of timber may also be promoted under the SMAF.
2. In the State like Punjab establishment of commercial dairy farms with high producing cattle and buffaloes has resulting in higher demand for green fodder consequently resulting in dairy farmers taking up large scale cultivation of fodder maize crop either on their own land or on leased land.
3. Regarding utilization of railway land- railway tracks are normally laid on an elevated bank with very little space left beyond the shoulder of the ballast. Vegetations on these narrow strips of land is not encouraged as it attracts cattle and other livestock for grazing, who cross the track from one side to the other and get run-over by trains and on many occasions are reasons for derailments/damage to the under-gear or locomotives.
4. Gochar land Development- The State Governments have been requested to develop Gochar lands by taking assistance under Sub Mission on Feed and Fodder Development of National Livestock Mission. This year (2016-17) five States viz Chattisgarh, Odisha, Jharkhand, Rajasthan and Gujarat have been given financial assistance for development of the Gochar land. Further the success model of Gochar land development in Dharmaj village in Anand District of Gujarat has been sent to all States for replication.

5. The ministry of Panchayati Raj has been requested to identify the Gochar land for developing and to rope in the Panchayats in the process. It has been mentioned that MNREGA funds may also be dovetailed as labour component.
6. Ministry of Rural Development- As per the para 2.5.2.1 of the Annual Master Circular issued by the Ministry, Pasture development is a permissible work as mentioned under category A,(vi) Pasture Development; perennial grasses like stylo etc. And under Category B, iv, Paature Development perennial grasses like stylo, vetiver etc. In the category of Drought proofing works of MGNREGA, under Grass and Development and Silvipasture. As on 20th jan2017, a total of 2043 number of works relating to Grassland development and silvipasture are completed and 1205 works ongoing in 25 States/UTs. A State-wise details is given in Annexure-I.
7. Eight Regional Fodder Stations situated in different agro climatic zones of the country are doing extension work related to dissemination of knowledge related to all aspects of fodder production, utilization, storage, seed production etc.
8. Non-traditional fodder like azolla cultivation is being promoted, which takes very little space for cultivation at the same time gives large quantity of quality fodder.
9. Fodder cultivation activities along with feed production activities proposed by State/UTs under RKVY are supported by the department.
10. All the proposals of import of all varieties of fodder seeds in country are supported by the department.
11. Proper post-harvest utilisation of fodder is being promoted under Sub Mission on Feed and Fodder Development of National Livestock Mission so that there is no wastage. As per report nearly 30% fodder is saved by chaffed fodder feeding habits. Silage making, bailing and fodder block making are supported as storage devices so the fodder is available during lean periods.
12. As many manufactures are producing feed in the market. To ensure quality feed available department is supporting for establishment of feed testing laboratories.
13. Development of grassland in Bihar: IGFRI, Jhansi with support of Deptt. Of Forest, Govt. of Bihar: Developed 2 ha area in hilly degraded Forest of Gaya district in 2013. Established Guinea grass (*Panicum maximum*), Dinanath grass (*Pennisetum pedicellatum*), Hybrid Napier and *Stylosanthes hamata*.

14. An area of 5 ha. of natural/barren/degraded pastureland has been developed as model grassland in IGFRI, Jhansi. The productivity of developed model grassland increased from 11t/ha green forage (palatable and non-palatable) in natural to 29 t/ha (only palatable grasses and legumes within one year of interventions. In the developed model grassland grazing experiment of small ruminants has been initiated and initial data showed that the forage availability period increased in model grassland (July-Dec.) in comparison to natural grassland (July-Oct).

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ADDITIONAL FODDER DEVELOPMENT PROGRAMME
(Recommendation Para No. 13)

The Committee note that the Additional Fodder Development Programme (AFDP), a sub-scheme of Rashtriya Krishi Vikas Yojana (RKVY), aims at mitigating the adverse impact of drought on fodder production by providing financial and technical assistance to farmers undertaking fodder cultivation. The Committee are, however, displeased with the fact that the Department has not succeeded in encouraging State to purchase high yielding variety fodder seeds from the Regional Fodder Stations (RFS) that have been set up in different agro-climatic zones. The Committee, therefore, recommend that the Department persuade States to purchase high yielding variety fodder seeds from the Regional Fodder Stations and to adhere to the advisory issued to the States and UTs from time to time so that AFDP can perform successfully while using land resources optimally, adopting suitable crop combinations, improving grasslands / wastelands, conserving and utilizing crop residue and strengthening extension activities etc. Furthermore, the role of private sector in equipment, financing and commercial feed and fodder production needs to be assessed and harnessed to aid AFDP and other such programmes aimed at fulfilling the need for fodder and providing equipment to farmers and livestock owners undertaking fodder cropping. The Committee also note that as per the prevailing AFDP Guidelines, farmers in the drought affected districts/blocks are provided assistance at the rate of Rs.3200/- per hectare as per cost norms for a maximum area of 2 ha per beneficiary for taking up additional production of fodder in these

districts/blocks. The Committee feel that assistance of Rs.3200/- per hectare does not seem to be adequate and therefore, desire that said assistance needs to be raised suitably. In this context, the Committee would like to know the number of farmers who have been given such financial assistance and the benefits accrued as a result therefor since inception of the programme. The Committee also urge the Department to raise awareness about the convergence of fodder schemes with MGREGA Scheme, so that the Department can fulfill twin objectives of attaining self sufficiency in fodder as well as generating gainful employment opportunities for the rural masses. Furthermore, the Department also needs to formulate a action plan to make fodder cropping a profitable enterprise. The Committee would like to be apprised of the actions initiated by the Government in this direction.

Reply of the Government

5. DAC&FW has launched an Additional fodder Development Programme (AFDP) as a sub Scheme of Rashtriya Krishi Vikas Yojana(RKVKY) across the country to accelerate fodder production, its availability throughout the year and mitigating adverse impact of drought on livestock particularly in drought affected districts/blocks. Under this programme kits of high yielding fodder varieties are distributed amongst farmers for fodder production through respective State Governments. Seeds of fodder are procured by State Governments from established Seed Companies as per their policy and priority. However in line of recommendations and also to encourage State for purchase of high yielding variety fodder seeds from the Regional Fodder Stations(RFS), State Governments are advised to give top priority in procuring seeds of various fodder crops developed by Regional Fodder Stations(RFS). KVKS also may be involved by Department of Animal Husbandry, Dairying & Fisheries (DAHD&F) for front line demonstration for HYV of fodder seeds development by RFS so that demand for seeds of RFS is met by farmers themselves. AFDP programme is primarily implemented by State's Animal Husbandry Department, therefore, DAHD&F may also advise State Departments suitably.

6. Private sectors has also developed many varieties of high yielding fodder crops which may also be promoted keeping in view its nutritional value and ensuring supply of quality fodder to meet the demand of livestock sector. In so far as providing equipment to farmers and livestock owners are concerned, DAC&FW is already providing subsidy to farmers for purchasing farm equipments including chaff-utter etc. under Sub Mission of Agriculture Mechanization (SMAN).
7. Since inception of the AFDP 5605768 Nos of farmers have been benefitted and financial assistance of Rs.632.66 crores have been provided up 16.02.2017. State-wise details is given in Annexure-II.
8. Ministry of Rural Development- As per the para 2.5.2.1 of the annual Master Circular issued by the Ministry, Pasture development is a permissible work as mentioned under category A,(vi) Pasture Development; perennial grasses like stylo etc. And under Category B, iv, Paature Development perennial grasses like stylo, vetiver etc. In the category of Drought proofing works of MGNREGA, under Grass and Development and Silvipasture. As on 20th jan2017, a total of 2043 number of works relating to Grassland development and silvipasture are completed and 1205 works ongoing in 25 States/UTs. A State-wise details is given in Annexure-I.

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Comments of the Committee

For comments of the Committee please refer to Para No. 1.19 of Chapter I of this Report.

CHAPTER - III

**OBSERVATIONS/RECOMMENDATIONS WHICH THE COMMITTEE DO NOT
DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLIES**

- N I L -

CHAPTER - IV

OBSERVATIONS/ RECOMMENDATIONS IN RESPECT OF WHICH REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE

FUNDING OF THE COMPONENTS OF SUB MISSION ON FEED AND FODDER DEVELOPMENT

(Recommendation Para No. 05)

The Committee note that the Department has taken necessary steps to increase fodder production in various parts of the country by providing financial assistance to the States/UTs under Centrally sponsored National Livestock Mission with a Sub Mission on Feed and Fodder Development. The Committee also note that from 28th Oct 2015, the funding of the components has been changed to the sharing ratio of 60:40 between the Centre and the States for those schemes for which the Central share is higher. However, for those scheme for which the Central share is 60% or lower the same will continue as per the existing Guidelines. Further, for the eight North-Eastern and three Himalayan States this ratio of sharing between Central and State will be 90:10. It is clarified that in these eight North Eastern States and three Himalayan States for those schemes for which the Central Share was 90% or lower the same will continue as per the existing Guidelines. Similarly for Union territories, the Centrally Sponsored Schemes will be funded 100 percent by the Central Government except for those schemes for which the Central share was lower than 100%, the same will continue as per the existing Guidelines. During the evidence, the Secretary of the Department informed the Committee that subsidy is granted on manual as well as on power driven chaff cutters. While 75 % subsidy is being granted on manual driven chaff cutter, the same is 50 % on power driven chaff cutter. There is no doubt that power driven chaff cutter has given the farmers the convenience to chop fodder for livestock with ease and has also saved their time and the labour involved in the process, particularly those women fold who are involved therein. The time saved by using power driven chaff cutter could be utilised by them for their other activities. However, the Committee still feel that there are certain things in the processing of chopping of fodder which could not be done without the help of manpower. The Committee, therefore, recommend that power driven chaff cutter

may also be given subsidy to the extent of 75% as being given on manual driven chaff cutter as also assured by the Secretary of the Department on the issue.

Reply of the Government

The department has launched National Livestock Mission in 2014-15 with a Sub Mission on Feed and Fodder Development. The financial assistance is being provided to the States and UTs for feed and fodder development under the following components.

- 11)Fodder Production from Non-forest wasteland/rangeland/grassland/non-arable land
- 12)Fodder production from Forest land
- 13)Fodder Seed Procurement/ Production & Distribution
- 14)Introduction of Hand Driven Chaff-Cutter
- 15)Introduction of Power Driven Chaff-Cutter
- 16)Distribution of low capacity, tractor mountable Fodder Block Making units, hay bailing machines/reapers/forage harvesters
- 17)Establishment of silage making Units
- 18)Establishment of by-pass protein production units
- 19)Establishment of Area Specific Mineral Mixture / Feed Pelleting/ Feed Manufacturing Unit
- 20)Establishment/modernization of Feed Testing Laboratories

Funds released under the Sub Mission-Feed & Fodder Development of National Livestock Mission

Year	Funds allocated	Funds Released (Rs in crore)
2014-15	111.00	47.68
2015-16	121.00	16.85
2016-17	137.00	34.15 (till 6.3.2017)

The subsidy on power driven chaff cutter is being shared between Centre and State government in the ratio 50:50 due to limited availability of funds at the Centre.

Ministry of Agriculture and Farmers Welfare

Comments of the Committee

For comments of the Committee please refer to Para No. 1.16 of Chapter I of this Report.

GENDER PERSPECTIVE IN ANIMAL HUSBANDRY

(Recommendation Para No. 14)

The Committee note that the National Agriculture Policy formulated in 2000 accorded high priority to recognition and mainstreaming of women's role in agriculture and highlighting incorporation of 'Gender Issues' in the agriculture development agenda. The Committee also note that within the overall mandate, goals and objectives, the DAHDF places special emphasis on women participation and contribution in the Animal Husbandry, Dairying and Fisheries Sector. While appreciating the emphasis of the Department, the Committee urge them to take this forward by creating more opportunities for women in the Sector and involving more number of women in the workforce by way of MGNREGA component of construction works under the Sub Mission, by training women into silage making, providing higher subsidies for women using chaff cutters, both power and hand driven, by aiding formation of women self help groups which are able to take up entrepreneurial activities in the field of cattle rearing, fodder storage, milk cooperatives etc. Taking forward the work of Krishi Vigyan Kendra (KVKs) in training women in activities like fodder management, wasteland development etc. and helping them form Self Help Groups (SHGs), the Department may very well emulate the success of cooperatives in the field of feed and fodder development which will not only have a positive impact on the livestock but also foster dairy development in the long run. The Committee, therefore, recommend that the Department may work out plans drawing more and more women folk into the Animal Husbandry, Dairying and Fisheries sector and set an example of opening up gainful and profitable employment opportunities and bringing about gender balance in the workforce in the agriculture sector, particularly in the sector of Animal Husbandry, Dairying and Fisheries. The Committee would like to be apprised of the initiatives taken by the Government in this regard.

Reply of the Government

At least 16.2% of the funds are released for SC beneficiaries including women by the department. Further, it is ensured that by the respective State Governments, where sanctions have been made under the Special Component Plan for SCs (SCPSC), the funds should be used only for the SC beneficiaries. However, State Governments may also strive, as far as possible, to cover physically 8%, 30% and 3% Scheduled Tribe, Women and physically challenged/ differently-abled persons/ farmers / beneficiaries, respectively from the General component until specific budget heads are created

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F.No.2-16/2016-AHT/FF dt.14th March 2017

Comments of the Committee

For comments of the Committee please refer to Para No. 1.22 of Chapter I of this Report.

CHAPTER - V

OBSERVATIONS/ RECOMMENDATIONS IN RESPECT OF WHICH FINAL REPLIES OF GOVERNMENT ARE STILL AWAITED

UTILISATION OF ALLOTED FUNDS BY THE STATES

(Recommendation Para No. 04)

According to the Department, monthly review meetings with Principal Secretary, Animal Husbandry of the States/UTs are held by the Secretary (ADF) in which apart from other issues, utilization of funds and proper implementation of schemes remain the main agenda point. Besides matters are followed by writing DO letters, through video conferences and making phone calls. During the course of evidence also, the Secretary of the Department informed the Committee that the Department holds review meetings with the States/UTs regularly, in order to ensure proper and optimum utilization of allocated funds. It was also informed to the Committee during the course of evidence that utilization certificates worth Rs.490 crores remain outstanding and an unspent balance of Rs.810 cores remain with the States and therefore, a special meeting on this issue has been called by the Department. While expressing its anguish over the issue of outstanding Utilisation Certificates (UCs) and unspent balance with the States, the Committee pointed out that this issue was raised by them several times in the past. However, the Committee regret to note that the Department does not appear to bother to find out the constraints which hampers utilization of funds by the States. The Committee also feel that there is no effective mechanism in place to coordinate with the States at district or block level and to monitor the pace of utilization of funds by the States at the ground level. In this context, the Committee also feel that one of the reasons for non-utilisation of funds may be formulation of Plan or Mission or Sub Mission by the Central Government with out consulting the State Governments as a result of which the States are reluctant to cooperate with the Centre for timely utilisation of funds for the purpose . The Committee, therefore, recommend that the Department may find out the constraints which hamper timely utilization of funds and submission of UCs therefor by the States. The Committee also recommend that a mechanism may be put

in place in coordination with State Governments to monitor the pace of utilization of funds at the ground level. The Committee would like to be apprised of the action taken by the Department in this regard.

Reply of the Government

1. Regular meetings are being held by Secretary (ADF) with State Principle Secretaries Animal Husbandry. Since May 2016 till February eight meetings have been held by the Secretary on the issue of proper and timely utilization of funds.
2. Regular Video Conferencing is held with States twice or thrice every month on the issue of timely and proper utilization.
3. Field visits are also being made to test check the work execution relates to funds released to States/UTs.
4. Almost all the States have furnished their previous years Utilization Certificates and department has releases funds of their approved programmes during 2016-

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UTILISATION OF CROP RESIDUES

(Recommendation Para No. 06)

The Committee note that the crop residues are being wasted either by diverting it for industrial use or by burning agricultural refuge in the fields itself causing environmental pollution. One of the reasons for such wastage is attributed to the fact that the farmers have very little time available between two crops. Further, non-availability of labour or high cost of labour, lack of space, hazards of fire and damage caused by rains are other factors which influence farmers to dispose off their crop residues/agricultural wastes as early as possible and they have no interest to process and store the crop residues till completion of sowing of their next crop. The Committee feel that to avoid such practices, it would be necessary that crop residues and agricultural wastes are promoted as animal feed by improving its nutritional value and its palatability through available techniques like treatment of straw with urea and molasses along with silage. Issue of advisory by the Department to the States on the issue is not enough unless opportunities related to production and efficient use of crop residues/by-products is addressed by the Department in coordination with the State Governments for improving the forage resources in the country. The

Department being the nodal agency can not ignore its responsibility on the issue. The Committee, therefore, recommend that wastage of crop residues/agricultural wastes by way of burning and diverting its uses for industrial purposes may be checked on priority basis and the same may be converted and stored as forage for its supply to the regions/areas having scarcity of fodder. The Committee would like to be apprised of the initiatives undertaken by the Department in this regard.

Reply of the Government

1. Advisories are issued to States/UTs by the Department from time to time to take steps to discourage burning of straws and Crop residue Management through Bailing, fodder block making, Chaffing, Urea Treatment & Total Mixed Ration (TMR), Hay and silage making. The department also provides funds under NLM for Bailing, fodder block making, Chaffing, Urea Treatment & Total Mixed Ration (TMR), Hay and silage making.
2. Regional Fodder Stations situated in different agro climatic zones of the country are doing extension work related to dissemination of knowledge related to all aspects of fodder production, utilization, storage, seed production etc.
3. Fodder cultivation activities along with feed production activities proposed by State/UTs under RKVY are supported by the department.
4. Proper post harvest utilisation of fodder is being promoted under Sub Mission on Feed and Fodder Development of National Livestock Mission so that there is no wastage. As per report nearly 30% fodder is saved by chaffed fodder feeding habits. Silage making, bailing and fodder block making are supported as storage devices so the fodder is available during lean periods

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NEW DELHI;
07 August, 2017
16 Shravana, 1939 (Saka)

HUKM DEO NARAYAN YADAV
Chairperson,
Standing Committee on Agriculture.

ANNEXURE

STANDING COMMITTEE ON AGRICULTURE

(2016-17)

MINUTES OF THE TWENTY FIFTH SITTING OF THE COMMITTEE

The Committee sat on Thursday, the 03rd August, 2017 from 1500 hrs. to 1700 hrs. in Committee Room No. 1 (Block-A), Extension to Parliament House Annexe Building, New Delhi.

PRESENT

Shri Hukm Deo Narayan Yadav – Chairperson

MEMBERS

LOK SABHA

2. Prof. Ravindra Vishwanath Gaikwad
3. Shri Nalin Kumar Kateel
4. Smt. Raksha Khadse
5. Md. Badaruddoza Khan
6. Shri Janardan Mishra
7. Shri Neiphiu Rio
8. Shri B. S. Yeddyurappa

RAJYA SABHA

9. Shri Sambhaji Chhatrapati
10. Shri Janardan Dwivedi
11. Shri Mohd. Ali Khan
12. Shri Ram Nath Thakur

SECRETARIAT

1.	Shri D.S. Malha	-	Joint Secretary
2.	Shri Arun K. Kaushik	-	Director
3.	Smt. Juby Amar	-	Additional Director
4.	Shri C. Vanlalruata	-	Deputy Secretary
5.	Shri Sumesh Kumar	-	Under Secretary

LIST OF WITNESSES

MINISTRY OF AGRICULTURE AND FARMERS WELFARE (DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION)

<u>S.No.</u>	<u>NAME OF THE OFFICER</u>	<u>DESIGNATION</u>
1.	Dr.Trilochan Mohapatra	Secretary (DARE) &DG (ICAR)
2.	Dr. K. Alagusundaram	Deputy Director General (NRM), ICAR
3.	Dr. S.K. Chaudhari	Assistant Director General (SWM), ICAR
4.	Dr. P.K. Chakrabarty	Assistant Director General (PP&B), ICAR
5.	Dr. P.P. Biswas	Principal Scientist (Soils), ICAR
6.	Dr. Krishan K. Sharma	Principal Scientist, IAR, New Delhi
7.	Shri B.S.Phogat	Additional Plant Protection Advisor
8.	Shri D.D.K.Sharma	Secretary, Central Board of Insecticides & Registration Committee

MINISTRY OF AGRICULTURE AND FARMERS WELFARE (DEPARTMENT OF AGRICULTURE, COOPERATION AND FARMERS WELFARE)

1.	Shri Shobhana Pattanayak	Secretary
2.	Shri Ashwani Kumar	Joint Secretary

MINISTRY OF CHEMICALS & FERTILIZERS (DEPARTMENT OF CHEMICALS & PETROCHEMICALS)

1.	Shri Rajeev Kapoor	Secretary (Department of Chemicals & Petrochemicals)
2.	Shri Samir Kumar Biswas	Joint Secretary (Chemicals)
3.	Dr. Jitendra Kumar	Director (IPFT)
4.	Shri S.P.Mohanty	Chairman & Managing Director (HIL)

MINISTRY OF CHEMICALS & FERTILIZERS
(DEPARTMENT OF FERTILIZERS)

1. Shri Dharam Pal Addl. Secretary

2. At the outset, the Chairperson welcomed the Members to the Sitting of the Standing Committee. Then, the Committee took up the following draft Reports for consideration and adoption:

***(i)** XXXXX XXXXX XXXXX XXXXX

*(ii) xxxx xxxx xxxx xxxx

(iii) Draft Report on the Action Taken by the Government on the Observations/Recommendations contained in the Thirty-fourth Report of the Standing Committee on Agriculture on the Subject "Steps Taken to Bridge the Gap Between the Demand and Availability of Fodder Through Sub-Mission on Fodder and Feed Development" pertaining to the Ministry of Agriculture and Farmers Welfare (Department of Animal Husbandry, Dairying and Fisheries) (English Version);

*(iv) XXXXX XXXXX XXXXX XXXXX

3. After some deliberations, the Committee adopted the draft Reports without any amendments and authorized the Chairperson to finalize the Reports and present the same to Parliament.

[WITNESSES WERE USHERED IN]

*4. XXXX XXXX XXXX XXXX

*5. XXXXX XXXXX XXXXX XXXXX

^{*6.} XXXXX XXXXX XXXXX XXXXX

A verbatim record of the proceedings has been kept separately.

The Committee then adjourned.

Matter not related to this Report.

ANALYSIS OF ACTION TAKEN BY GOVERNMENT ON
THE THIRTY FOURTH REPORT (16th LOK SABHA) OF
STANDING COMMITTEE ON AGRICULTURE (2016-17)
(Vide Para 4 of Introduction of the Report)

(i)	Total number of Recommendations	14
(ii)	Recommendations/Observations which have been Accepted by the Government Para Nos. 1, 2, 3, 7, 8, 9, 10, 11, 12 and 13	
	Total	10
	Percentage	71.42%
(iii)	Recommendations/Observations which the Committee Do not desire to pursue in view of the Government's replies Para No. NIL	
	Total	00
	Percentage	0.00%
(iv)	Recommendations/Observations in respect of which replies of the Government have not been accepted by the Committee Para Nos. 5 and 14	
	Total	02
	Percentage	14.28%
(v)	Recommendations/Observations in respect of which Final replies of the Government are still awaited Para Nos. 4 and 6	
	Total	02
	Percentage	14.28%