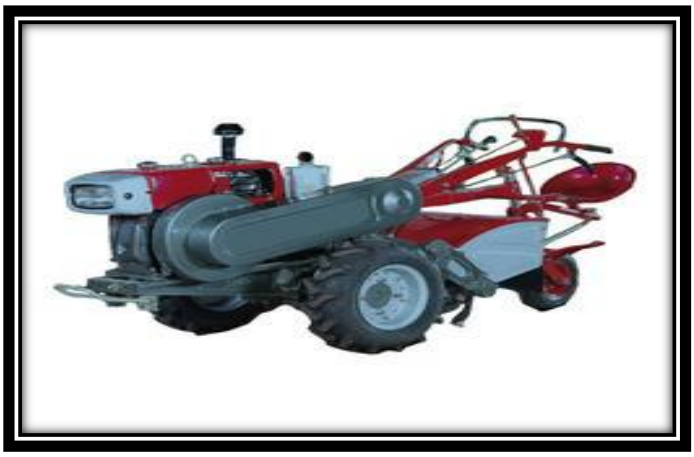
REPORT OF THE

EXPERT COMMITTEE ON POWER TILLERS



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Expert Committee on Power Tillers presents its Report to the Government of India, Ministry of Agriculture & Farmers Welfare (Department of Agriculture, Cooperation & Farmers Welfare)

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1. EXECUTIVE SUMMARY, COMMENTS AND RECOMMENDATIONS

1.1 BACKGROUND:

1.1.1 The growing shortage of agricultural labour and rising wage rates are not the only reasons for the accelerated mechanization of farm operations. Factors such as time-saving, efficient input application, transportation of farm inputs and produce, and reducing drudgery also stimulate demand for farm machines. The development and mass production of multi-utility mechanized devices to suit the requirements of farmers important for the growth of mechanization in India.

1.1.2 Power Tiller is one of the multi-utility devices which are ideal for small and marginal farms. About 86% of the farm holdings are small and marginal in the country. However, the use of power tillers is confined mainly to a handful of crops such as paddy and sugarcane and that too mainly in the Southern and the North-Eastern States.

1.1.3 The tractor industry has grown substantially, reaching a production capacity of over 600,000 tractors a year. On the other hand the power tiller industry has remained under-developed, producing only about 35000 - 40,000 units annually. Power tillers, which are essentially mini-tractors with two wheels and rotary tillers, should logically be preferred over tractors by Indian farmers particularly the small and marginal farmers. In Japan, where the average farm size is smaller than India, power tillers are extensively used for paddy cultivation. But this is not the case in India. Even small and marginal farmers prefer to own or hire a tractor than the easily affordable power tillers.

1.1.4 The Power Tiller market is serviced by two Indian companies i.e. VST Tillers Tractors Limited, Bangalore & Kerala Agro Machinery Corporation (KAMCO) Ltd., Athani (Kerala). These two companies collectively catering to more than 68 percent of the market. The remaining market is catered by power tillers mainly imported from China. The power tiller industry is expected to grow in the future owing to the good monsoons, availability of easy financing and non-availability of labour in the agriculture sector. However, the Indian Power Tiller Companies are facing a stiff challenge as many new manufacturers/traders assemble Chinese power tillers completely for marketing in India. Imports from China now accounts for about 30 per cent of the total industry sales, compared with the 10 percent market share enjoyed by imported tillers a few years back. The demand for power tillers imported from China is growing on account of it being about 10-20 percent cheaper than its Indian counterpart.

1.1.5 It has been noticed that the two Indian manufacturers of power tillers have manufacturing capacity of 90000 power tillers per annum. However, they are not able to utilize their full capacity due to competition from the Chinese power tillers. The Indian power tiller manufacturers provide direct and indirect employment to many

people of this country. Therefore, the Government must endorse the call to 'Make in India' and the domestic power tillers must be given preference over imported power tillers. The Domestic Companies should be provided adequate support to make its product competitive in comparison with the imported products through appropriate moderation of tariff and streaming the domestic taxes by making it less onerous to boost 'Make in India' campaign. On the other hand, the farmers' interest must be protected as it is understood that a number of Chinese power tillers, basically imported by traders lacks in after-sales service and there are concerns of the availability of spare parts.

1.1.6 The issue regarding marketing of Chinese power tillers was raised in the meeting of Parliamentary Standing Committee on Agriculture held on 14th September 2015 as under:

(i) Chinese Power Tiller is being imported at Rs. 65,000 to 75,000 and admissible subsidy on this is Rs. 60,000. Yet the price being charged from farmers is ranging from Rs. 1.25 lakh to Rs. 1.50 lakh.

(ii) The low cost Chinese substandard power tiller is sold in the Indian market at two to three times the import price.

(iii) Indigenous power tillers should only be promoted. Indigenous power tiller has lot of production in the country and its quality is also good.

(iv) The Association of Indigenous Power Tiller Manufacturers has been demanding this from last many years.

(v) Farmers may be allowed to buy as many power tillers as they want and its numbers should not be restricted. Power tiller is a multi-utility machine.

(vi) The Department of Agriculture, Cooperation & Farmers Welfare should coordinate with the States and bring uniform norms for the price of power tiller under the schemes of mechanization etc.

1.1.7 As the issue was of complex nature involving appropriate data collection and wider consultations, the Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Government of India constituted an Expert Committee under the Chairmanship of Dr. K. Alagusundarm, Deputy Director General (Agricultural Engineering) of Indian Council of Agricultural Research to undertake a comprehensive examination of issues of power tillers raised in the meetings of Parliamentary Standing Committee on Agriculture. The terms of reference of the Expert Committee were as follows:

(i) Study the manufacturing cost of the Indian Power Tillers

(ii) Study the cost of imported power tillers.

(iii) Comparative study of the quality and performance of the indigenous and imported power tillers

(iv) Suggesting incentives to promote Indian power tiller industries.

(v) Framing quality parameters apart from the existing performance parameters and suggest the parameters so that only quality power tillers are imported.

(vi) Suggest permissible procedure in consultation with Department of Economic Affairs to ensure that any subsidy inputs sought to be given for Indian power tiller industry do not prima facie violate the WTO agreements.

1.2 APPROACH ADOPTED BY THE COMMITTEE

1.2.1 The Committee held four meetings, the first on 27.01.2016 at New Delhi, the second on 22 February 2016 at New Delhi, the third on 14-15 July 2016 at Bengaluru and the fourth on 25th November 2016 at New Delhi.

1.2.2 The data on price of the indigenous and imported (Chinese) power tillers supplied under subsidy schemes has been obtained from the manufacturers/suppliers of power tillers.

1.2.3 The data on quantity and price of Indigenous and imported (Chinese) power tillers supplied under subsidy schemes for the last three years have also been collected from the State Governments and compiled.

1.2.4 The detailed information on the provisions of Domestic Support under WTO Agreement has been obtained from the Department of Commerce, Ministry of Commerce and Industry.

1.2.5 The data on import price of Power Tillers has been obtained from the Central Board of Excise and Customs.

1.2.6 The existing codes/procedures for testing of power tillers have also been examined.

1.2.7 Consultations have been made with representatives of Bureau of Indian Standards, representative of the two indigenous manufacturers i.e. VST Tillers Tractors Ltd. Bangalore & Kerala Agro Machinery Corporation, Athani (Kerala).

1.2.8 The committee also interacted with the representatives of the power tiller importers viz. M/s Bengal Tools Limited, M/s Greaves Limited & M/s Southern Agro Engine Pvt. Ltd.

1.2.9 The committee visited the Farm Machinery Training & Testing Institute, Garladinne, District- Anantapur (Andhra Pradesh) to see the existing infrastructure for testing of power tillers.

1.2.10 The committee has examined the test reports and discussed the procedure and codes referred for testing of power tillers.

1.2.11 The Committee also referred the Study Report on Chinese Agricultural Machinery conducted by the team of College of Agricultural Engineering, Rajendra Agricultural University, Pusa (Samastipur), Bihar

1.2.12 Based on the deliberations during various meetings of Expert Committee, consultation with the indigenous manufacturers and importers of power tillers, verification of related documents, data as collected from various sources and visit of the Expert Committee to the testing institute, the detailed findings and recommendation of the committee on each terms of reference have been presented in the report and are summarized as under:

1.3 FINDINGS:

1.3.1 MANUFACTURING COST OF THE INDIAN POWER TILLERS

There are only two indigenous manufacturers of power tillers in the country viz. VST Tillers Tractors Limited (VST), Bangalore (Karnataka) & Kerala Agro Machinery Corporation (KAMCO), Athani (Kerala). As per the data supplied by these two manufacturers, the manufacturing cost (raw material cost) of power tiller on an average is Rs. 92,000/-. The average selling price of their power tillers is Rs. 1,65,000/- which includes cost towards overhead expenses such as cost of consumables, assembly, pre-delivery inspection etc. (average Rs. 23,500/-), VAT on basic cost (average Rs. 2400/-), cost of accessories (average Rs. 7550/-), dealers margin (average Rs. 10,000/-), company profit ranged from Rs. 1970/- to Rs. 5000/- and other charges such as freight, insurance, PDI expenses, marketing expenses, finance charges, local transportation, octroi and other levies on an average Rs. 26,000/-.

1.3.2 COST OF IMPORTED POWER TILLERS

As per the data collected from some of the Chinese power tiller importers, the landed cost of Chinese power tillers in India including the Customs duty on an average is Rs. 85900. Value addition to the landed cost of Chinese power tillers in terms of consumables, additional accessories and the spare parts on an average is Rs. 11450. The major portion of the cost

difference between landed cost and selling price is on account of dealers margin and profit to the importer which is on an average is Rs. 23800/- and transportation & Misc. marketing expenditure (Average Rs. 19800/-).

As per the data of Central Board of Excise and Customs (CBEC), the Power Tillers are mainly imported under Tariff Heads 84328020 and 84328090 which relates to Rotary Tiller and Other, respectively as per the import tariff rates. Under these categories small power weeders are also covered. Therefore, the cost variation can be seen from Rs. 27,315/- to Rs. 79,447/-. As per the above said data, the average landed cost of Standard Power Tiller varies between Rs. 70,000 to Rs. 80,000 (Excluding the Customs Duty). The customs duty on power tillers is @7.5%. Thus the cost including customs duty is Rs. 75250/- to Rs. 86000/-

1.3.3 SELLING PRICE OF POWER TILLERS IN DIFFERENT STATES

The data has also been collected from various State Governments on the quantity and selling price of power tillers. Different States have different selling prices of both indigenous as well as imported power tillers.

The selling price of indigenous power tillers range from Rs. 1,40,000 to 2,15,000 and that of imported (Chinese) power tillers range between 1,08,500 to 1,95,300. There is wide gap in the selling price of power tillers among States. Thus there is selling price difference of around Rs. 20,000 to Rs. 32,000 between indigenous and Chinese power tillers in different States. Chinese power tillers are around 10-20 percent cheaper than the indigenous power tillers.

The selling price of indigenous power tillers is highest in the State of Arunachal Pradesh followed by Meghalaya. The cost of Chinese power tillers is also highest in the State of Arunachal Pradesh followed by Assam.

The selling price of both indigenous and imported (Chinese) power tillers in many States is higher than the maximum retail price indicated by the manufactures/suppliers. It may be due to the fact that the State Government servicing agencies such as State Agro Industries Corporations etc. may be adding their commission and Service Tax in the cost quoted by the manufacturers.

1.3.4 COMPARATIVE STUDY OF THE QUALITY AND PERFORMANCE OF THE INDIGENOUS AND IMPORTED POWER TILLERS

1.3.4.1 From the table 5, it may be seen that the Shrachi and Kranti are the power tillers imported from China. However, they claim as manufacturers and quote their power tillers as indigenous.

1.3.4.2 Power tillers are tested in accordance with the procedure as per IS 9935-2002 (Power Tiller Test Code). This standard aims at performance evaluation of power tillers and not much is intended on quality and durability of the product.

1.3.4.3 IS 9935-2002 does not specify any procedure and limits for material quality testing of individual components/assemblies except that of the rotavator blades.

1.3.4.4 The same standard i.e. IS: 9935-2002 and IS: 13539-2008 (Power Tillers – Recommendations on Selected Performance Characteristics) is followed for testing and evaluation of the power tillers whether it is indigenous or imported from other countries including China.

1.3.4.5 The manufacturer or importer themselves select the power tiller and offer it for Initial Commercial Testing. The offered power tiller may not be a representative sample of the production or import lot. It could be a selective best sample.

1.3.4.6 The total duration for testing of power of power tillers is around 110 hours. It may be difficult to assess the durability of power tillers within 110 hours of running during the course of testing.

1.3.4.7 Testing on durability and quality of the power tiller components and sub-components is not carried out by the institute.

1.3.4.8 The power tiller is considered fit for supply under subsidy programmes of the Government if it meets the evaluative performance requirements as per IS: 13539-2008.

1.3.4.9 Two major breakdowns and 5 minor defects during the entire course of testing are allowed and such breakdowns does not disqualify the power tiller from subsidy.

1.3.4.10 In case of breakdowns and non conformity to evaluative performance parameters, provision for repeat and supplementary test is available. In case of breakdowns the power tiller is subjected to repeat test after replacing the broken parts/assemblies. Even if it fails during repeat test, the power tiller is subjected to Supplementary test and the tests relevant to the broken parts/assemblies are conducted again. These provisions in general do not disqualify any power tiller at any stage of testing.

1.3.4.11 Power weeders are also tested under the category of Power Tillers (tilling type). Such power weeders thus get the benefit of higher subsidy of power tillers below 8 BHP categories as per the guidelines of Sub-Mission on Agricultural Mechanization.

1.3.4.12 Many power tiller importers have not submitted power tillers for 1st and subsequent Batch Testing and still they are continued to be eligible for subsidy.

1.3.4.13 Most of the manufacturers specify their power tillers as non-transport vehicle and thus gets relief from conforming to the mandatory requirements under Central Motor Vehicle Rules (CMVR).

1.3.4.14 Under CMVR, every power tiller engine also has to meet the statutory prevailing exhaust gas emission norms. Some of the manufacturers of power tillers have been listed as defaulters of Conformity of Production (COP) on account of not meeting the emission requirements as per CMVR. While updating the list of power tillers eligible for subsidy, the list of manufacturers defaulting Conformity of Production is not being taken into consideration.

1.3.5 INCENTIVES TO PROMOTE INDIAN POWER TILLER INDUSTRIES

1.3.5.1 The domestic power tiller industries are facing competition from Chinese tillers which has a market share of 32% at present and is growing.

1.3.5.2 The liberal imports from China, uncertainties in the subsidy and the problems associated with the administration of the schemes at the State level, pose a constant challenge to the Indian Power Tiller Industry.

1.3.5.3 Increasing customs duty upto 25% from the present level of 7.5% for the imported power tillers and making regulations and internal taxes less onerous to the domestic manufacturers to boost 'Make in India' campaign will help promoting the cause of indigenous manufacturers.

1.3.5.4 Export – related incentives to the domestic power tiller manufacturers till the same is permissible under WTO, providing production subsidies, lowering the cost of capital and creating special economic zones for some or all manufacturing activity in particular will reduce the cost of doing business, increase profitability, and hence encourage the domestic power tiller manufacturers to increase investments.

1.3.5.5 A quota need to be fixed with a numerical limit on how much of a product can be imported into a country. This will help to protect producers of domestic products from facing too much competition and ultimately going out of business. Fixing import quota of imported (Chinese) power tillers will benefit and protect the Indian Power Tiller Industry. Looking into the production potential of the domestic power tiller

industries, the import quota for power tillers may be fixed as 10% of the total annual market of power tillers in India.

1.3.5.6 Production subsidy, which can be made available to the producer at the point of sale itself, will help reducing the cost of indigenous power tillers.

1.3.5.7 The State Governments have complicated procedures for distribution of subsidy. Making system online, avoiding selection of single supplier on lowest cost basis, elimination of mediator agencies in the supply chain, timely release of subsidy etc. will help indigenous power tiller industry. The MRP of a particular make and model of power tiller may be kept uniform in all States by the Central Government.

1.3.5.8 Power tillers are very important life time asset for the small farmers to increase their farm productivity. Besides giving subsidy, it is the responsibility of the State to ensure that the gullible farmers are guided properly and ensure that they are not misled to buy inferior quality goods and suffer. Such guidance and advisories are essential so that the small and marginal farmers will continue to have faith on the quality of product they are buying and will continue to use power tillers. It is therefore necessary to ensure that the origin of power tiller is clearly identifiable to the farmers when purchase power tillers.

1.3.6 QUALITY PARAMETERS APART FROM THE EXISTING PERFORMANCE PARAMETERS

1.3.6.1 Making the existing tolerances and limits as specified in IS: 9935-2002 and IS: 13539-2008 more stringent will help avoiding entry of poor and substandard quality of power tillers in the Indian market and thus will also protect the interest of Indian farmers.

1.3.6.2 In the current testing methods, repeat and supplementary tests are permitted. Power tillers that do not meet the evaluative performance parameters and breakdown criteria, are subjected to repeat tests and supplementary tests on the same sample by replacing the defective/broken parts/assemblies and thus the same power tiller finally qualify all the tests. Stringent norms should be followed for repeat and supplementary tests

1.3.6.3 Many of the performance parameters in the IS 13539: 2008 have been made non-evaluative even though they are relevant in performance evaluation of a power tillers. Making such parameters as evaluative will reject the entry of many poor and sub-standard power tillers at the stage of testing itself.

1.3.6.4 Subjecting the power tillers to longer test duration will help assessing the quality and durability of power tillers. For this conducting the tests in simulated conditions would be helpful.

1.3.6.5 The existing standards for testing of power tillers needs to be revised and the limits and tolerances for the material of critical components of power tillers such as sheet metal, engine components, transmission components, bearings, accessories etc. needs to fixed.

1.3.7 PERMISSIBLE PROCEDURE FOR SUBSIDY INPUTS SOUGHT TO BE GIVEN FOR INDIAN POWER TILLER INDUSTRY

1.3.7.1 Any subsidy provision mandating preference to domestic manufacturers would be WTO incompatible both under Article 3.1(b) of Agreement on Subsidies and Countervailing Measures (ASCM), Article III of General Agreement on Tariff and Trades (GATT), Article 2.1 of Trade-Related Investment Measures (TRIMs).

1.3.7.2 The Domestic Content Requirement (DCR) is not allowed even under Agreement on Agriculture (AOA). On perusal of the existing WTO jurisprudence (Analytical Index), it would be evident that the benefit of DCR is not available even under domestic support under AOA.

1.3.7.3 In the light of above, any subsidy contingent upon DCR, shall not be WTO compliant. Hence other ways of incentivizing the domestic industry say through production subsidy, which can be made available to the producer at the point of sale itself and Excise Duty exemption on assemblies and spare parts can be thought of as an alternative.

1.3.7.4 The existing provision of the Sub-Mission on Agricultural Mechanization without any discrimination between the imported and the domestically manufactured power tillers, when the subsidy is provided to the farmers on their purchase, is WTO compatible. The imported and the domestically manufactured power tillers cannot have differential rates of subsidy.

1.4 RECOMMENDATIONS:

After the examination of issues in detail, examination of provisions and data as collected from various sources, consultations with various stakeholders etc, the recommendations of committee are given as under:

1.4.1 MEASURES TO BE TAKEN BY POWER TILLER INDUSTRY

1.4.1.1 The imported (Chinese) power tillers are cheaper than the indigenous power tiller. The Indian power tiller industry should make all efforts to be cost competitive with the Chinese Power tillers.

1.4.1.2 The power tiller manufacturers/importers should make constant efforts in upgrading the quality of their power tillers on regional requirement basis and should do intensive regionally spread campaign in association with the State Governments for creating awareness among the buyers.

1.4.1.3 The importers of power tillers should only bring good and quality products to India. The import of substandard quality power tillers from China should be avoided.

1.4.1.4 The power tiller manufacturers/importers should declare the Maximum Retail Price (MRP) of their power tiller models State-wise and ensure the selling price to the farmers should not exceed the MRP in any case. They should bring transparency in the MRP so that the information is easily available to the farmers. The State-wise wide disparity in selling price should be avoided.

1.4.1.5 The manufacturers/importers should expand their dealer's network and easy availability of spare parts must be ensured. The dealers should organize proper training programmes for the users of power tillers on operation, maintenance and small repairs. The dealers/distributors should keep sufficient ready stock of spare parts at their workshop or service centers proportionate to total machines sold by them and nature of complaints.

1.4.1.6 The practice of marketing the imported power tillers as Made in India without any substantial domestic value addition vis-a vis the import content should be avoided by the importers of power tillers.

1.4.1.7 The power tiller manufacturer/importers should prominently display the county of origin of power tiller on the body of the power tiller at suitable place so that it is clearly visible. Every power tiller should have a labeling plate which should have the information on Make, Model, Year of manufacturing, Country of origin and Horsepower etc.

1.4.1.8 The power tiller manufacturers/importers should essentially have the minimum testing facilities such as dynamometers etc. for in house testing of power tillers.

1.4.1.9 Every manufacturer/importer of power tiller should create an online complaints portal and also should have service helpline numbers. All power tiller manufacturers/importers should maintain at all the dealers point the online database of power tillers sold along with the particulars of the buyers, date of sale, dates of complaints received from the farmers, type of complaints and the date of attending the complaints etc. This data should be integrated at the online portal of the manufacturer.

1.4.1.10 The manufacturers/importers of power tillers should provide a warranty of not less than 2 years duration and a Warranty Card must be given with each sale. It should be clearly told to the buyers and the information should be available in the printed literature such as operator's manual, service manual etc.

1.4.2 MEASURES TO BE TAKEN BY THE TESTING INSTITUTES TO IMPROVE QUALITATIVE EVALUATION OF POWER TILLERS.

1.4.2.1 It has been noticed that the power tillers importers import the power tillers in Semi Knocked Down (SKD) and Completely Knocked Down (CKD) Packages. They assemble the power tillers in India and these are offered to the institute for testing claiming that they are manufacturer of this power tiller and the power tiller is indigenous one. The testing institutes before admitting the power tiller for test should properly ensure the country of origin of power tillers. If major assemblies such as Engine, Chassis, Transmission, Tyres etc are imported, then the power tiller should be considered as imported and the name and country of origin of the manufacturer in this case needs to be properly ascertained. It may be insisted that the manufacturers/importers should supply printed literature such as Operators Manual, Service Manual and Spare Parts Catalogue to the testing institute before the power tiller is admitted for test. The country of origin thus can also be ascertained from the printed literature supplied.

1.4.2.2 It has been noticed that the manufacturer or importer themselves select the power tiller and offer it for Initial Commercial Testing. The offered power tiller may not be a representative sample of the production or import lot. It could be a selective best sample. The testing institutes should select the power tillers randomly from the production lot or the import lot. The serial number and part Nos. of the Major assemblies may be recorded and the major assemblies should be properly sealed so as to protect it from tampering and then the selected power tiller should be subjected to test.

1.4.2.3 It has been noticed that Power weeders are also tested under the category of Power Tillers (tilling type). Such power weeders thus get the benefit of higher subsidy of power tillers below 8 BHP categories as per the guidelines of Sub-Mission on Agricultural Mechanization. The power tillers conforming to the following definition

should only be tested under power tiller category. Necessary changes in the definition of power tiller as under IS 9935 should also be made. The categories of power tillers as defined under 3.6.1-General Purpose Type, 3.6.2- Pull Type and 3.6.3-Tilling Type, under IS 9935 may be deleted

"Power Tiller is agricultural machinery used for soil preparation having a single axle in which the direction of travel and its control during field operation is performed by the operator. The equipment may be walk behind or riding attachment type and when coupled to a trailer, can be used for transportation of goods. The maximum speed of the power tiller when coupled to a trailer shall not exceed 22 kmph. The maximum haulage capacity of the power tiller coupled to a trailer shall not exceed 1.5 tonne. The maximum power output of the power tiller engine shall not be less than 8 BHP".

1.4.2.4 Most of manufacturers specify their power tillers as non-transport vehicle and thus gets relief from conforming to the mandatory requirements under Central Motor Vehicle Rules (CMVR). Under CMVR, every power tiller engine also has to meet the statutory prevailing exhaust gas emission norms. During Initial Commercial Test, the testing institutes should ask the manufacturers to submit the emission compliance certificate and during the Batch Testing, submission of the certificate of Conformity of Production (COP) for emission should be made mandatory.

1.4.2.5 In case of breakdowns and non conformity to evaluative performance parameters, provision for repeat and supplementary test is available. In case of breakdowns the power tiller is subjected to repeat test after replacing the broken parts/assemblies. Even if it fails during repeat test, the power tiller is subjected to Supplementary test and the tests relevant to the broken parts/assemblies are conducted again. These provisions in general did not disqualify any power tiller at any stage of testing. The process of repeat test and supplementary test should be done away with and necessary amendments may be made in the relevant Indian Standard in consultation with Bureau of Indian Standards.

1.4.2.6 The SRFMTTI, Garladinne should purchase a suitable Load Car having state of the art facility for conducting drawbar performance test on the power tillers.

1.4.2.7 The test reports released by the institutes should clearly specify the country of origin of major parts and assemblies like chassis, engine, transmission, rotary etc. The cover page of the test report should also prominently indicate the country of origin of the power tiller.

1.4.2.8 The committee under Table 6 of this report has given recommendation with regard to revision of limits and tolerances for different performance parameters. These should be examined and suitable action may be taken to incorporate the suggested changes under IS 13539: 2008.

1.4.2.9 In order to ascertain the durability of the power tillers, endurance testing may be conducted on power tillers under simulated conditions for which suitable test set up may be developed. The torture test as being done by some of the power tiller manufacturer can also be carried by way of developing suitable test rink. Suitable simulated vibratory platforms can also be devolved for assessing the durability of various parts and assemblies of power tillers. The procedure for conducting such endurance test may be developed and such test along with its procedure may be incorporated under IS: 9935-2002.

1.4.2.10 The Standard for the chemical composition of various critical components of the power tiller may be developed in association with the metallurgy experts and the limits and tolerances may be incorporated under IS: 9935-2002. The specification for induction hardening, quality of steel, type and quality of bearings etc should also be identified.

1.4.2.11 The test report may also include recommendation for the use of power tiller on regional basis based on soil texture and adopted farming practices to ensure its good performance in the field.

1.4.3 MEASURES TO BE TAKEN AT THE LEVEL OF CENTRAL GOVERNMENT

1.4.3.1 The Domestic Companies should be provided adequate support to make its product competitive in comparison to the imported products through appropriate moderation of tariff and streaming the domestic taxes by making it less onerous to boost 'Make in India' campaign. On the other hand, the farmers' interest must be protected as it is understood that a number of Chinese power tillers, basically imported by traders lack in after-sales service and there are concerns of the availability of spare parts.

1.4.3.2 Increasing customs duty upto 25% from the present level of 7.5% and making regulations and internal taxes less onerous to domestic manufacturers to boost 'Make in India' campaign will help promoting the cause of indigenous manufacturers.

1.4.3.3 In case the increase in Customs Duty as suggested under 1.4.3.2 is not possible then the another anti-dumping measure as under may be taken:

"A quota sets a numerical limit on how much of a product can be imported into a country. This helps to protect producers of domestic products from facing too much competition and ultimately going out of business. It has been noticed that the local power tiller manufacturing industries have a production potential of around 90000 power tillers per annum. The present annual Indian power tiller market is around 60,000 units and the share of Chinese Power Tillers is around 32%. Looking into the production potential of the domestic power tiller industries, the import quota for

power tillers may be fixed as 10% of the total annual market of power tillers in India. The Department of Agriculture, Cooperation & Farmers Welfare may take suitable action on this in consultation with the Ministry of Finance".

1.4.3.4 Export-related incentives need to be provided to the domestic power tiller manufacturers. Further, providing production subsidies, interest subsidies, lowering the cost of capital and creating special economic zones for some or all manufacturing activity in particular will reduce the cost of doing business, increase profitability, and hence encourage the domestic manufacturer to increase investments.

1.4.3.5 The Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation and Farmers Welfare under its different schemes provide financial assistance to the farmers for purchase of power tillers. The domestic power tiller industry can be incentivized through these funds if are made available to the producer/industry at the point of sale itself as production subsidy. This will also benefit the Government as well as the users. Thus, the Government will also be able to regulate the prices of power tillers in the country.

1.4.3.6 Commercial Banks currently extend long-term credit for purchase of tractors and other farm machineries as per prevalent norms (11 to 14 percent interest rates) and against security and collateral. However, Banks usually prefer financing equipments that either have multiple utility or demand driven business model or organized dealer and service network, good resale value etc. Only Tractors and Combine Harvesters fit into this. As a result, institutional credit off take is heavily skewed towards tractors and combine harvesters accounting for about 75% of total. Power tillers are multi-utility devices which are ideal for small and marginal farms, which account for nearly 86 per cent of total landholdings. Lower rates of interest and easy availability of credit for purchase of power tillers to these small and marginal farmers would be helpful. The Department of Agriculture, Cooperation and Farmers Welfare may take up this issue suitably with the Department of Financial Services for lowering the rates of interest to at least 7% and simplifying the norms for extending institutional credit.

1.4.3.7 Export-related incentives to the domestic power tiller manufacturers may be provided. They may be facilitated through financial support for participation in the International Exhibitions and Trade Shows within the country and abroad. This will provide an opportunity to expand their production capacity and thus the industries will contribute to the growth of Indian economy.

1.4.3.8 Under the guise of Made in India, the importers with negligible value addition to imported power tillers are able to outbid the price of domestic manufacturers and awarded the export contract for supplies made under the Foreign Aid Programmes of Government of India. Under such supplies in aid programmes, the indigenous manufacturers should be given preference.

1.4.3.9 Complicated procedures for distribution of subsidy at the State levels should be simplified. The Government of India should insist all the State Governments for having an online system for identification of beneficiary and disbursal of subsidy. This will bring transparency in the system.

1.4.3.10 Power tillers are multi-utility devices and are ideal for small and marginal farms. The government should promote power tillers on a larger scale under its various schemes.

1.4.3.11 The Batch Testing of Power Tillers should be strictly enforced to ensure the supply of quality power tillers to the farmers. The manufacturers/importers who have failed to get their power tillers tested under 1st Batch Testing and Subsequent Batch Testing should be eliminated from the list of power tillers eligible for subsidy under Government schemes/programmes.

1.4.3.12 Under Central Motor Vehicle Rules (CMVR), every power tiller engine has to meet the statutory prevailing exhaust gas emission norms. However, SRFMTTI do not test the power tillers for emission. As per the data available on the websites of Automotive Research Association of India (ARAI), Pune and International Centre for Automotive Technology (ICAT) Manesar, some of the manufacturers of power tillers have been listed as defaulters of Conformity of Production (COP) on account of not meeting the emission requirements as per CMVR. While updating the list of power tillers eligible for subsidy, such defaulters of COP may be eliminated.

1.4.3.13 The Department of Agriculture, Cooperation and Farmers Welfare should advise the testing institutions under its control to develop appropriate test facilities and procedure to assess the durability and material quality of the power tillers. For incorporation of such test procedure under relevant Test Codes, necessary amendments may be made in the Test Codes in association with Bureau of Indian Standards (BIS).

1.4.3.14 The committee under Table 6 of this report has given recommendation with regard to revision of limits and tolerances for different performance parameters including the criteria for acceptance of product as specified under IS 13539: 2008. These may be examined and immediately implemented and subsequently revision of IS 13539: 2008 may be taken up by the BIS.

A committee with leading researcher on power tillers from various Agricultural Engineering Institutions may be formed to examine the complete test procedures and to make new recommendations and norms for effective testing and performance evaluation of power tillers

1.4.4 MEASURES TO BE TAKEN AT THE LEVEL OF STATE GOVERNMENTS:

1.4.4.1 Online system for identification of beneficiary and disbursal of mechanization subsidies should be developed and Implemented by all the States.

1.4.4.2 It has been noticed that the selling price of power tillers in many States are higher than the maximum selling price as indicated by the manufacturers/importers of power tillers. This may be due to the reason that many State Governments have appointed State Agro Industries Development Corporations and other such State Government Agencies as service providers for supply of power tillers to the farmers. Such service providers do not provide any value added services but in turn charge commission and service tax, which adds to the cost of power tillers which is finally offered to the farmers. The State Governments should eliminate such mediator agencies from the supply chain which will reduce the cost of power tillers that is finally offered to the farmers.

1.4.4.3 It has been noticed that the State Governments call for tenders for empanelling the power tillers suppliers under the subsidy programmes and selection of supplier is done on lowest cost basis. Sometimes this process selects a single source of supplier and the particular make & model of power tillers are provided to the farmers even though they may not prefer to buy it. Such system of empanelling the suppliers entirely on lowest cost basis may be done away with and the selection of power tillers should be left to the choice of farmers.

1.4.4.4 The power tiller market largely depends on the Government subsidy. Timely release of subsidy to the suppliers needs to be addressed appropriately at the State level.

1.4.4.5 While empanelling the suppliers of power tillers, the State Governments may put the following conditions in the tender documents:

(i) The supplier company should have its dealer in every district and service centres with adequate workshop facilities at least at the Taluka levels

(ii) Experience of at least 3 years in dealing with agricultural mechanization sector.

(iii) Warranty of not less than 2 years on the models of power tillers

(iv) Availability of literature such as operator's manual, service manual and spare parts catalogue.

(v) Adequate training facilities on operation and maintenance of power tillers for purchasers.

(vi) Adequate availability of spare parts with the dealers and service centers proportionate to the total machines being sold

(vii) Online complaint and redressal facilities along with helpline numbers for farmers

1.4.4.6 It should be ensured that the power tiller manufacturers should prominently display the county of origin of power tiller on the body of the power tiller at suitable place so that it is clearly visible and identifiable.

1.4.4.7 The Committee of officers at the State level should ensure the compliance of recommendations as indicated in 1.4.1 of this report by the power tiller manufactures/importers of power tillers though the inspection visits, verifying the records etc.

2. INTRODUCTION

2.1 Power tiller is one of the many farm mechanization inputs like tractors used by the farmers. Power tillers are the two-wheeled version of tractors that are targeted at farmers with small land holdings, or those who cannot afford expensive tractors. It works best on smaller land holdings (up to 2.5 hectares) and where the horse power requirement is lower. Most of the power tillers are diesel operated with a horse power ranging from 8 to 15. As power tillers use less labour per unit of land compared to tractors and bullock carts, it is increasingly used in very intensive cultivation of paddy, intercropping for horticulture and plantations. Some of the Far East countries like Japan, China and Taiwan are also encouraging the use of power tillers in small land holdings.

2.2 With additional fittings to the power tiller, it is capable of performing operations right from primary tillage to transportation of crops which may include ploughing, harrowing, cultivation, planking, ridging and furrowing, sowing, fertilizer application, pumping water, interculture, plant protection, harvesting, threshing and lastly the transport operation. In short the power tiller can render all these services for many types of crop production. Obviously, it has become a choice for those farmers who need a mechanical source of power for smaller farm operations.

2.3 The Government of India, Ministry of Agriculture & Farmers Welfare (Department of Agriculture, Cooperation & Farmers Welfare) under various schemes provide subsidy to the farmers for purchase of power tillers. The subsidy guidelines provides for assistance for eligible machinery on all makes and models of power tillers irrespective of their country of origin i.e. whether indigenous or imported, provided that these power tillers are tested by the Farm Machinery Training & Testing Institutes and meets the minimum performance requirements as per BIS. A list of make and model of the power tiller that are tested at Farm Machinery Training & Testing Institutes and meeting the Minimum Performance Standards is released by the Mechanization & Technology Division of the Department of Agriculture, Cooperation & Farmers Welfare for the reference of State Governments.

2.4 The power tiller industry, mostly accounted for by small and medium units, has started looking up in recent times, after weathering a rough patch when many tiller manufacturing units closed shop. Many new units have come up now and these include companies that assemble Chinese completely knocked down units for marketing in India. The issue regarding marketing of Chinese power tillers was raised in the meeting of Parliamentary Standing Committee on Agriculture held on 14th September 2015 which is as under**:**

(a) The Chinese Power Tiller is being imported at Rs. 65,000 to 75,000. Admissible subsidy on this is Rs. 60,000. Yet the price being charged from farmers is ranging from Rs. 1.25 lakh to Rs. 1.5 lakh. Can Department of Agriculture, Cooperation & Farmers Welfare coordinate with the States and bring uniform norms for the price of power tiller and for other schemes of mechanization etc.?

(b) Low cost Chinese substandard power tiller is sold in the Indian market at twice – thrice the price. Indigenous power tillers should only be promoted. Indigenous power tiller has lot of production in the country and its quality is also good. The Association of Indigenous Power Tiller Manufacturers has been demanding this from last many years. Farmers may be allowed to buy as many power tillers as they want and its numbers should not be restricted. Power tiller is a multi-utility machine.

2.5 As the issue is of complex nature, the Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Government of India constituted an Expert Committee under the Chairmanship of Dr. K. Alagusundarm, Deputy Director General (Agricultural Engineering) of Indian Council of Agricultural Research to undertake a comprehensive examination of issues of power tillers raised in the meetings of Parliamentary Standing Committee on Agriculture. The terms of reference of the Expert Committee were as follows:

(i) Study the manufacturing cost of the Indian Power Tillers

(ii) Study the cost of imported power tillers.

(iii) Comparative study of the quality and performance of the indigenous and imported power tillers

(iv) Suggesting incentives to promote Indian power tiller industries.

(v) Framing quality parameters apart from the existing performance parameters and suggest the parameters so that only quality power tillers are imported.

(vi) Suggest permissible procedure in consultation with Department of Economic Affairs to ensure that any subsidy inputs sought to be given for Indian power tiller industry do not prima facie violate the WTO agreements.

2.6 A copy of the Government order giving composition of the Committee and other details is at (Annexure-I).

3. APPROACH ADOPTED BY THE COMMITTEE

3.1 The Committee held four meetings, the first on 27.01.2016 at New Delhi, the second on 22 February 2016 at New Delhi, the third on 14-15 July 2016 at Bengaluru and the fourth on 25th November 2016 at New Delhi. In the first meeting, the issues raised have been examined and the course of action by the Committee has been decided. It was decided to obtain the data on quantity and price of the indigenous and imported (Chinese) power tillers supplied under subsidy schemes from all the manufacturers/suppliers of power tillers and all the State Governments for the last three years. It was also decided that the detailed information on the provisions of Domestic Support under WTO Agreement will be obtained from the Department of Commerce, Ministry of Commerce and Industry. The data on import price of power Tillers may be obtained from the Central Board of Excise and Customs. The existing codes/procedure for testing of power tillers may be reviewed and provisions may be suitably modified to ensure production and supply of quality power tillers.

3.2 During the 2nd meeting of the Expert Committee, the members of the BIS Committee already working under the chairmanship of Director, Central Institute of Agricultural Engineering (CIAE), Bhopal has also been invited for discussion on the existing codes and procedures of the testing of power tillers. The representative of the two indigenous manufacturers i.e. VST Tillers Tractors Ltd. Bangalore & Kerala Agro Machinery Corporation, Athani (Kerala) were also invited to put their views on the status and problems of the Indian power tiller industry. The data collected on price of indigenous and imported power tillers, subsidy provisions under government schemes and the testing process has been examined in detail.

3.3 During the 3rd meeting, the committee also interacted with the representatives of the power tiller importers viz. M/s Bengal Tools Limited, M/s Greaves Limited & M/s Southern Agro Engine Pvt. Ltd. and discussed on the issues of dealers network, spare parts availability and after sales services provided by them. The committee also visited the Farm Machinery Training & Testing Institute, Garladinne, District- Anantapur (Andhra Pradesh) to see the existing infrastructure for testing of power tillers. The committee discussed on the procedure and codes referred for testing of power tillers.

3.4 During the fourth meeting, the draft report of the committee and comments received from members have been discussed and necessary amendments have been made in the report.

3.5 The Committee also referred the study report on Chinese Agricultural Machinery in the State of Bihar conducted by team of College of Agricultural Engineering, Rajendra Agricultural University, Pusa (Samastipur), Bihar which was submitted to the Department of Agriculture, Government of Bihar in April 2016.

3.6 Based on the deliberations during various meetings of Expert Committee, consultation with the indigenous manufacturers and importers of power tillers, verification of related documents, data as collected from the various sources and visit of the Expert Committee to the testing institute, the detailed findings of the committee on each terms of reference have been presented in the preceding chapters and recommendations are summarized under para 1.4 of the report.

4. MANUFACTURING COST OF THE INDIAN POWER TILLERS

4.1 There are only two indigenous manufacturers of power tillers in the country viz. VST Tillers Tractors Limited (VST), Bangalore (Karnataka) & Kerala Agro Machinery Corporation (KAMCO), Athani (Kerala). The data on manufacturing cost of power tillers supplied by these two indigenous manufacturers during the year 2015-16 is as under:

Table 1: Cost of Indigenous Power Tillers

S. No.	Particulars	Cost (Rs.)	
		VST	**KAMCO**
1.	Average raw material cost	90,000	93,700
2.	VAT on basic cost	2,500	2,350
3.	Average overhead expenses such as cost of consumables, assembly, pre-delivery inspection etc.	25,000	21,900
4.	Average cost of accessories	7,500	7,600
5.	Average dealers margin	10,000	9,510
6.	Average company profit	5,000	1,970
7.	Average other charges such as freight, insurance, PDI expenses, marketing expenses, finance charges, local transportation, octroi and other levies	25,000	27,465
8.	**Average selling price in India**	**1,65,000**	**1,64,495**

5. COST OF IMPORTED (CHINESE) POWER TILLERS

5.1 The data on cost of Chinese power tillers has been collected from some of the importers as under:

Table 2: Cost of Imported (Chinese) Power Tillers as provided by Importers

S. No.	Particulars	Cost (Rs.)										
		George Maijo	Shrachi	Rhino	Jayessar	Chirag Corp.	Universal	Kavi	Indra Marshall	AR Agro	Associated	Average
1.	Average basic import cost	78293	81813	74210	78083	70482	75600	71533	83000	74777	92914	77655
2.	Average Custom Duty	9185	9940	9696	11322	8411	9097	4776	6221	5015	10780	8278
3.	Average VAT	7476	6000	7242	4390	7286	7380	2000	7050	6356	6190	6152
4.	Average overhead expenses such as cost of consumables, assembly, pre-delivery inspection etc.	5500	2500	5000	2517	5670	6500	8000	6000	3333	0	4724
5.	Average cost of accessories/ indigenous items	11000	4126	4000	4800	10735	6700	13333	4000	6000	0	6730
6.	Average dealers margin	15000	29000	12000	11500	17170	10000	13333	15000	21518	7520	13671
7.	Average company profit	15000	-17193	7480	12833	13433	8007	10230	5000	12833	6000	10091
8.	Average other charges such as transport, insurance, marketing expenses, finance charges, local transportation, octroi and other levies	16000	38813	32523	10333	19964	31716	6160	30000	25167	6595	19829
8.	**Average selling price in India**	**157499**	**155000**	**152150**	**135778**	**153150**	**155000**	**129367**	**156271**	**155000**	**129999**	**147135**

Note: M/s. Greaves Cotton Ltd., Farm Equipment Business, Petrol Engine Unit, Gummidipoondi – 601 201, is the major importer of power tillers from China. However, in spite of frequent requests and reminders, they have not supplied the cost breakup of the power tillers imported and marketed by them.

5.2 As per above table, the landed cost of Chinese power tillers in India including the Customs duty is Rs. 85900. Value addition to the landed cost of Chinese power tillers in terms of consumables, additional accessories and the spare parts on an average is Rs. 11450. The major portion of the cost difference between landed cost and selling price is on account of dealers margin and profit to the importer which is on an average is Rs. 23800/- and transportation & Misc. marketing expenditure (Average Rs. 19800/-).

6. QUANTITY AND SELLING PRICE OF INDIGENOUS AND CHINESE POWER TILLERS IN DIFFERENT STATES

6.1 Some of the State Governments have also supplied information on quantity and average selling price of indigenous and Chinese power tillers in their States during the last three years as under:

Table 3- Selling Price of Indigenous and imported (Chinese) power tillers in States

Year	Quantity of Indigenous Power Tillers (Nos)	Price range of Indigenous Power Tillers (Rs.)	Quantity of Imported (Chinese) Power Tillers (Nos)	Price range of Imported (Chinese) Power Tillers (Rs.)	Remarks
BIHAR					
2013-14	1727	149978	1702	145497	
2014-15	896	158784	1146	152224	
2015-16	699	163135	832	153390	
Andhra Pradesh					
2013-14	1200	Cost details not given	NIL	--	
2014-15	3323		NIL	--	
2015-16	3886		NIL	--	
Arunachal Pradesh					
2013-14	200	158995 - 183475	115	155000 - 183000	
2014-15	60	158995 - 183475	15	135000 - 183000	
2015-16	250	211263 - 215000	150	145000 - 190000	
Assam					
2013-14	73	169100	NIL	--	
2014-15	1004	167895-193130	606	149898 - 187000	
2015-16	781	174636- 188260	519	158150- 195300	
Chhattisgarh					
2013-14	Quantity details not provided	142000 - 160000	Quantity details not provided	143000 - 176850	
2014-15		174250		149000 - 174250	
2015-16		159930-174250		149600 - 163350	
Gujarat					
2013-14	Quantity details not provided	140000	Not supplied	--	
2014-15		140000			
2015-16		140000			
Jharkhand					
2013-14	10	165460- 178478	184	139000- 149500	
2014-15	16	165460- 178478	212	139000- 155000	
2015-16	0	--	92	147000- 156500	
Madhya Pradesh					
2013-14	152	167325- 174660	468	142176- 180000	
2014-15	76	167325- 174660	180	142170 - 180000	
2015-16	57	167325- 174660	142	142170 - 180000	
Maharashtra					
2013-14	1147	145000 - 148000	103	119000- 135000	
2014-15	1327	145000 - 148000	186	119000-146300	
2015-16	1054	147645 - 173800	75	130900 - 151875	
Manipur					

2013-14	Nil	--	Not supplied	--	
2014-15	11	188000	Not supplied	--	
2015-16	20	194000	Not supplied	--	
Meghalaya					
2015-16	112	196000 - 206000	Not supplied	--	
Nagaland					
2013-14	138	172800	Not supplied	--	
2014-15	148	190000	Not supplied	--	
2015-16	92	190000	Not supplied	--	
Rajasthan					
2015-16	04	160000 - 168000	45	85000*- 108500	*Cost of power Weeder
Sikkim					
2013-14	103	143723	12	67590*	*Cost of power Weeder
2014-15	121	164473	1	47200*	
2015-16	282	153631	2	139650	
Tamil Nadu					
2013-14	Quantity details not provided	144000- 149000	Quantity details not provided	121000 - 142500	
2014-15		148400 -155000		121500 - 154000	
2015-16		153500- 165000		122860- 153000	
Puducherry					
2013-14	Quantity details not provided	149000	Quantity details not provided	153000	
2014-15		153500- 150000			
Goa					
2013-14	268	138225	25	140000	
2014-15	208	138225	18	142000	
2015-16	222	138000	18	145000	

6.2 Different States have different selling prices of both indigenous as well as imported power tillers.

6.3 The selling price of indigenous power tillers range from Rs. 1,40,000 to 2,15,000 and that of imported (Chinese) power tillers range between 1,08,500 to 1,95,300. Thus there is wide gap in the selling price of power tillers among States. Thus there is selling price difference of around Rs. 20,000 to Rs. 32,000 in indigenous and Chinese power tillers in different States. Chine power tillers are around 10-20 percent cheaper than the indigenous power tillers.

6.4 The selling price of indigenous power tillers is highest in the State of Arunachal Pradesh followed by Meghalaya. The cost of Chinese power tillers is also highest in the State of Arunachal Pradesh followed by Assam.

6.5 It has been noticed that the selling price of both indigenous and imported (Chinese) power tillers is higher than the maximum retail price indicated by the manufactures/suppliers in the preceding chapters of this report. It may be due to the fact that the State Government servicing agencies such as State Agro Industries Corporations etc. may be adding their commission and Service Tax in the cost quoted by the manufacturers.

7. POWER TILLER IMPORT PRICE DATA

7.1 The import data along-with import cost has been collected from the Central Board of Customs and Excise (CBEC) as under:

Table 4: Import Price of Power Tillers

Date	HS Code	Description	Origin Country	Port of Discharge	Unit	Quantity	Value (INR)	Per Unit (INR)
1-Jun-2015	84328090	AGRICULTURE MACHINERY - POWER TILLER (MODEL:DF-15DLC)	China	Kolkata Sea	UNT	30	2,359,510	78,650
11-Jun-2015	84328090	AGRICULTURE MACHINERY - POWER TILLER (MODEL:DF-15DLG)	China	Kolkata Sea	UNT	130	10,328,103	79,447
10-Jun-2015	84328020	GREAVES GS 15DIL S POWER TILLER (ROTARY TILLER) (AGRICULTURE APPLICATION) - IN CKD CONDITION	China	Nhava Sheva Sea	SET	44	3,146,099	71,502
10-Jun-2015	84328090	AGRICULTURE MACHINERY - POWER TILLER (MODEL:DF-15DLG)	China	Kolkata Sea	UNT	130	10,328,103	79,447
10-Jun-2015	84328020	GREAVES GS 15DIL S POWER TILLER (ROTARY TILLER) (AGRICULTURE APPLICATION) - IN CKD CONDITION	China	Nhava Sheva Sea	SET	44	3,146,099	71,502
26-Oct-2015	84328020	GREAVES GS 18 DIL POWER TILLER (ROTARY TILLER)	China	Chennai Sea	SET	40	3,131,206	78,280
21-Nov-2015	84328020	AGRICULTURAL POWER TILLER MODEL 15DLG WITH ACCESSORIES (ROTARY TILLER)	China	Chennai Sea	PCS	18	1,298,847	72,158
21-Nov-2015	84328020	AGRICULTURAL POWER TILLER MODEL SF-15DIL WITH ACCESSORIES (ROTARY TILLER)	China	Chennai Sea	PCS	2	151,072	75,536
21-Nov-2015	84328020	AGRICULTURAL POWER TILLER MODEL 15DLG WITH ACCESSORIES (ROTARY TILLER)	China	Chennai Sea	PCS	18	1,298,847	72,158
26-Feb-2016	84328020	GREAVES GS 15 DIL S POWER TILLER (ROTARY TILLER)	China	Chennai Sea	SET	48	3,402,865	70,893
19-Feb-2016	84328020	AGRICULTURAL POWER TILLER (ROTARY TILLER) MODEL MAIJO 15DLG WITH ACCESSORIES	China	Chennai Sea	SET	48	3,545,535	73,865

25-Jun-2016	84328090	AGRICULTURAL MACHINERY ROTARY / POWER TILLER MDL:GN151 WITHDI-DIESEL ENGINE MDL:ZS1100 WITH ACCESS. IN SKD CONDITION	China	Kolkata Sea	SET	88	6,676,027	75,864
8-Jun-2016	84328020	GREAVES GS 15 DIL S POWER TILLER (ROTARY TILLER)	China	Chennai Sea	UNT	48	3,370,785	70,225
15-Jun-2016	84328090	AGRICULTURAL MACHINERY ROTARY / POWER TILLER MDL:GN151 WITHDI-DIESEL ENGINE MDL:ZS1100 WITH ACCESS. IN SKD CONDITION	China	Kolkata Sea	SET	88	6,682,610	75,939
11-Jun-2016	84328090	DIVYA SHAKTI BRAND POWER TILLER (ROTARY TILLER)WITH CHANGCHAI ENGINE MODEL HZS1100N FULL BELT COVER(AS PER INV)	China	Kolkata Sea	SET	80	5,602,605	70,033
11-Jun-2016	84328090	DIVYA SHAKTI BRAND POWER TILLER (ROTARY TILLER)WITH CHANGCHAI ENGINE MODEL HZS1100N FULL BELT COVER(AS PER INV)	China	Kolkata Sea	SET	160	11,205,191	70,032
0-Aug-2016	84328020	AGRICULTURAL POWER TILLER (ROTARY TILLER) MODEL MAIJO 15DLG (GEAR TYPE) WITH ACCESSORIES	China	Chennai Sea	UNT	48	3,390,315	70,632

7.2 From the above data it may be seen that Power Tillers are mainly imported under Tariff Heads 84328020 and 84328090 which relates to Rotary Tiller and Other, respectively as per the import tariff rates of CBEC. Under these categories small power weeders are also covered.

7.3 However, as per the above said data, the average landed cost of Standard Power Tiller varies between Rs. 70,000/- to Rs. 80,000/- (Excluding the Customs Duty). The customs duty on power tillers is @7.5%. Thus the cost including customs duty is Rs. 75250/- to Rs. 86000/-. The similar landed cost of imported power tillers is also indicated by the importers.

8. COMPARATIVE STUDY OF THE QUALITY AND PERFORMANCE OF THE INDIGENOUS AND IMPORTED POWER TILLERS

8.1 The Committee visited the Southern Region Farm Machinery Training & Testing Institute, Garladinne, District- Anantapur (Andhra Pradesh) which is the institute authorized by the Department of Agriculture, Cooperation and Farmers Welfare for testing of power tillers. The committee has inspected the infrastructure facilities available with the institute and also examined the test reports of indigenous as well as imported power tillers released by the institute. The performance data on some of the selected power tillers is as under:

Table 5: Performance Data on Selected Power Tiller Models

Sl. No.	Characteristics	KAMCO	VST	Greaves*	Shrachi*	Kranti*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A	Manufacturer	M/s. Kerala Agro Machinery Corporation Ltd., Athani – 683 585, Ernakulam District, Kerala	M/s. VST Tillers Tractors ltd., P.B. No. 4801, Mahadevapuram Post, Whitefield Road, Bangalore-48.	M/s. Changzhou Machinery and Equipment Imp. & Exp. Co. Ltd., # 29, Nm Huaide Road, Changzhou, Jiangsu – 213 012, China	M/s. Bengal Tools Limited (Agro Div.), 2nd Jessore road, Kolkata – 700 028, West Bengal	Indtec Elektro Control, F-6, Focal Point, Phagwara Road, Hoshiarpur, Punjab-146001
B	Applicant	The Manufacturer	The Manufacturer	M/s. greaves Cotton Ltd., Farm Equipment Business, Petrol Engine Unit, F-62&63, SIPCOT Industrial Complex, Gummidipoondi – 601 201.	The Manufacturer	The Manufacturer
C	Make & Model	Kamco, KMB 200	VST Shakti, VST Shakti 130DI	GS 15 DIL	Shrachi, Champion	Kranti, IND-230
D	Country of Origin	India	India	China	India/China	India/China
E	Test Report No. Month & Year	PT-41/403, June 2013	PT-49/413, August 2013	PT-65/477, November 2014	PT-88/662, June 2016	PT-52/419,Sep 2013
1. Engine performance						
a)	Maximum power under 2 h test, kW (hp)	6.70 kW	8.90 kW	10.80 kW	10.70 kW	9.90 kW
b)	Power at rated engine speed, kW(hp)	6.70 kW	8.70 kW	10.80 kW	10.70 kW	9.90 kW
c)	Specific fuel consumption corresponding to maximum power {g/kWh (g/bhph)}	295 g/kWh	366 g/kWh	259 g/kWh	249 g/kWh	327 g/kWh

(1)	(2)	(3)	(4)	(5)	(6)	(7)
d)	Specific fuel consumption corresponding to rated Horse power {g/kWh (g/bhph)}	295 g/kWh	356 g/kWh	259 g/kWh	249 g/kWh	326 g/kWh
e)	Maximum equivalent crankshaft torque, Nm	32.6	36.10	65.10	56.0	48.7
f)	Maximum operating temperature (ºC)					
	1) Engine oil	89	118	112	107	111
	2) Coolant	103	116	114	107	124
g)	Lubricating oil consumption, g/kWh (g/hph)	2.10 g/kWh	0.52 g/kWh	0.97 g/kWh	0.81 g/kWh	1.66 g/kWh
h)	Maximum coolant (water) consumption (percent of total coolant capacity)	9.86	17.70	17.78	6.38	17.78
j)	Smoke level	Light absorption coefficient of 1.59 per meter	Light absorption coefficient of 2.98 per meter	Light absorption coefficient of 2.54 per meter	Light absorption coefficient of 2.78 per meter	Light absorption coefficient of 2.67 per meter
k)	Overheating tendency of the engine	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
2. Rotary shaft performance						
a)	Maximum power under 2 hours test. kW (Ps)	5.70 kW	7.50 kW	9.40 kW	9.40 kW	8.20 kW
b)	Power at rated engine speed, kW (Ps)	5.70 kW	7.30 kW	9.40 kW	9.40 kW	8.20 kW
c)	Specific fuel consumption corresponding to power at rated engine speed, {g/kWh (g/bhph)}	316 g/kWh	434 g/kWh	276 g/kWh	277 g/kWh	335 g/kWh
d)	Maximum equivalent rotary shaft torque, Nm (kgf-m)	260 Nm	353.1 Nm	531 Nm	444 Nm	368 Nm

(1)	(2)	(3)	(4)	(5)	(6)	(7)
e)	Maximum operating temperature of rotary transmission Oil (^{o}C)	67	94	76	77	72
f)	Rotary shaft power rating, kW (I's)	5.7 kW	7.50 kW	9.40 kW	9.40 kW	8.20 kW
3 Drawbar Performance						
i)	Earthern track (with steel wheels)	---	---	---	---	---
a)	Maximum drawbar pull, kN (kgf)	---	---	---	---	---
b)	Maximum drawbar power, kW (Ps)	---	---	---	---	---
ii)	Concrete track (with pneumatic wheels)					
a)	Maximum drawbar pull corresponding to 15 percent wheel slip, kN (kgf)	4.10 kN	3.10 kN	3.40 kN	3.80 kN	3.20 kN
b)	Maximum drawbar power, kW (Ps)	4.9 kW	3.80 kW	4.0 kW	4.70 kW	3.9 kW
c)	Maximum transmission oil temp (^{o}C)	73	62	68	65	68
4. Brake Performance						
a)	Service brakes	---	---	---	---	---
b)	Maximum force exerted to apply the brake. (N)	---	---	---	---	---
c)	Observation on rotation on drive wheels (power tillers) at a slope of 12 percent with trailer having gross mass recomm-ended for haulage	---	---	---	---	---
b)	Parking Brakes					
a)	Observation on rotation of cranked wheels at the slope of 12 percent , facing up and facing down	No rotation of drive wheels	No rotation of drive wheels	No rotation of drive wheels	No rotation of drive wheels	No rotation of drive wheels

(1)	(2)	(3)	(4)	(5)	(6)	(7)
5.	Air cleaner oil pull over Maximum percentage of oil pull over (mass basis)	0.17	0.17	0.15	(Dry type Air Cleaner)	0.07
6.	Noise Level: a) Maximum ambient noise emitted by the power tiller, dB(A)	82	88	74	78	88
	b) Maximum noise at operators' ear level dB(A)	94	98	96	94	97
7.	**Amplitude of Mechanical Vibration at:**					
	a) Steering handle grips	384	240	218	320	574
	b) Gear levers	307	145	121	190	69
	c) Clutch/brake lever(s)	357	327	246	320	893
	d) Rotary shaft speed change lever	329	190	68	230	104
	e) Steering clutch levers	341	300	70	270	752
	f) Accelerator lever	233	450	791	360	501
	g) Operators seat (with trailer attached)	---	---	---	---	324
	h) Foot rest (if provided)	---	---	---	---	125
9.	Haulage Performance: a) Gross load of trailer (t)	1.0	1.5	1.5	1.5	1.5
	b) Distance travelled/litre of fuel consumption (km)	12.19 to 12.49	10.34 to 10.45	13.10	14.03	15.85 to 16.05
	c) Fuel consumption (cc/km/gross load tonne)	80.06 to 82.03	63.80 to 64.47	50.90	47.52	58.58 to 61.84
10.	Suitability for wet land cultivation	Yes	Yes	Yes	Yes	Yes
11	Stationery Operations	Provided	Provided	Provided	Provided	Provided
12.	Discard Limit (mm) : (Declared/ Observed) a) Cylinder bore diameter	95.20/95.02	96.0/95.02	102.50/100.02	100.50/100.01	100.40/100.03

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	b) Piston clearance	0.152/0.14	0.40/0.12	0.42/0.20	0.45/0.11	0.42/0.13
	c) Ring end gap	1.50/0.27	1.50/0.65	3.00/0.45	3.00/0.45	3.50/1.10
	d) Radial percent axial clearance of big and bearing	Radial-0.25/0.07 Axial-0.25/0.19	Radial-0.15/0.08 Axial-0.50/0.13	Radial-0.25/0.10 Axial-0.80/0.35	Radial-0.50/0.10 Axial-0.50/0.25	Radial-0.50/0.11 Axial-0.80/0.40
	e) Ring groove clearance	0.20/0.04	0.30/0.05	0.50/0.07	0.40/0.10	0.35/0.18
	f) Thickness of clutch lining	5 ± 0.1/5.07	3.0/6.10	Up to rivet head/0.96	Up to rivet head / 2.45	Up to rivet head/3.10
	g) Radial and axial clearance of main bearings	Radial-Ball Bearing/NA Axial-0.27/0.18	Radial-0.15/0.11 Axial-0.50/0.12	Radial-Ball & Roller bearing/NA Axial-0.25/0.15	Radial-Ball & Roller bearing/NA Axial-0.50/0.15	Radial- Roller bearing/NA Axial-0.90/0.25
13.	**Safety requirements:**					
	a) Provision of guards on moving parts other than rotavator	Provided	Provided	Provided	Provided	Provided
	b) Location and direction of exhaust emission to be away from the operator and machines for stationary operation	Provided	Provided	Provided	Provided	Provided
	c) Covers on hot parts	Provided	Provided	Provided	Provided	Provided
	d) Locking of parking stand lever	Provided	Provided	Provided	Provided	Provided
	e) Protective shield for rotavator to prevent flying of mud and stones	Provided	Provided	Provided	Provided	Provided
	f) Accidental engaging of reverse speed gear when rotary is in operation	Provided	Provided	Provided	Provided	Provided
	g) Provision of Head -lights	Provided	Provided	Provided	Provided	Provided
14	Critical Breakdowns	None	None	None	None	None
15	Major Breakdowns	None	None	None	None	None
16	Minor Breakdowns	None	None	None	None	None

*** Greaves is a power tillers imported from China. However, Shrachi and Kranti have some indigenous content and they quote their power tillers as indigenous.**

8.2 From the above data as provided in the test reports released by the Southern Region Farm Machinery Training & Testing Institute, Garladinne, District- Anantapur (Andhra Pradesh), it is difficult to find out performance difference between the indigenous and imported (Chinese) power tillers. As far as quality of material and durability is concerned, the test report does not have any data and therefore it is difficult to compare the qualitative and durability difference between the indigenous and imported power tillers.

8.3 After examining the infrastructure, testing procedure/codes and data on the power tillers tested, following observations have been noted by the Committee:

8.3.1 The institute is having good infrastructure facilities for testing of power tillers as per the requirements of Indian Standards except that suitable load car with state of the art technology for drawbar performance evaluation of power tillers is not available.

8.3.2 Power tillers are tested in accordance with the procedure as per IS 9935-2002 (Power Tiller Test Code). This standard aims at performance evaluation of power tillers and not much is intended on quality and durability of the product. No procedure and limits are prescribed for material quality testing of individual components/assemblies except that of the rotavator blades.

8.3.3 The same standard i.e. IS: 9935-2002 and IS: 13539-2008 (Power Tillers – Recommendations on Selected Performance Characteristics) is followed for testing and evaluation of the power tillers whether it is indigenous or imported from other countries including China.

8.3.4 As per the existing procedure, the manufacturer or importer themselves select the power tiller and offer it for Initial Commercial Testing. Thus the offered power tiller for test may not be a representative sample of the production or import lot. It could be a selective best sample.

8.3.5 The total duration for testing of power of power tillers is around 110 hours which includes field test of rotavation of 20 hours duration and puddling/wetland cultivation test of 15 hours duration. It may be difficult to assess the durability of power tillers within 110 hours of running the power tiller during the course of testing.

8.3.6 The existing process of testing does not involve testing on durability and quality of the power tiller components and sub-components. Also the institute does not carry out any user's survey on the tested power tillers.

8.3.7 The power tiller is considered fit for supply under subsidy programmes of the Government if it meets the evaluative performance requirements as per IS: 13539-2008. Two major breakdown and 5 minor defects during the entire course of testing are allowed and such breakdowns does not disqualify the power tiller

from subsidy. Also, in case of breakdowns and non conformity to evaluative performance parameters, provision for repeat and supplementary test is available. In case of breakdowns the power tiller is subjected to repeat test after replacing the broken parts/assemblies. Even if it fails during repeat test, the power tiller is subjected to Supplementary test and the tests relevant to the broken parts/assemblies are conducted again. These provisions support in favour of the manufacturers/importers from disqualification of their power tillers at any stage of testing.

8.3.8 It has been noticed that the SFFMTTI, Garladinne test the power weeders under the category of Power Tillers (tilling type). Such power weeders thus get the benefit of higher subsidy of power tillers below 8 BHP categories as per the guidelines of Sub-Mission on Agricultural Mechanization.

8.3.9 Provision for conducting Batch Test (BT) after 3 years from the date of release of initial commercial test report and subsequent batch tests after a period of 5 years from the previous batch test is available. However, it has been noticed that many power tiller importers have not submitted power tillers for 1st and subsequent Batch Testing and still they are continued to be eligible for subsidy.

8.3.10 Power tillers as transport vehicles are also covered under Central Motor Vehicle Rules (CMVR). However, most of manufacturers specify their power tillers as non-transport vehicle and thus gets escape from conforming to the mandatory requirements under Central Motor Vehicle Rules (CMVR). Under CMVR, every power tiller engine also has to meet the statutory prevailing exhaust gas emission norms. However, SRFMTTI do not test the power tillers for emission. As per the data available on the websites of Automotive Research Association of India (ARAI), Pune and International Centre for Automotive Technology (ICAT) Manesar, some of the manufacturers of power tillers have been listed as defaulters of Conformity of Production (COP) on account of not meeting the emission requirements as per CMVR.

8.3.11 The Mechanization & Technology Division of Department of Agriculture, Cooperation and Farmers Welfare update the list of power tillers eligible for subsidy under Government schemes. The power tillers undergone Initial Commercial Testing and meeting the evaluative performance requirements as per IS:13539-2008 are considered eligible for subsidy. While updating the list, the list of manufacturers defaulting Conformity of Production is not being taken into consideration.

9. SUGGESTING INCENTIVES TO PROMOTE INDIAN POWER TILLER INDUSTRIES

9.1 The Indian annual power tiller market is around 60000 units out of which VST Tillers Tractors Limited, Bangalore has commanding 45% market share, followed by Kerala Agro Machinery Corporation (KAMCO) commanding 23% market share. But the major competition is from Chinese tillers which has a market share of 32% at present and is growing. The liberal imports from China, uncertainties in the subsidy and the problems associated with the administration of the schemes at the State level, pose a constant challenge to the Indian Power Tiller Industry for short term as well as long term. The Government must endorse the call to 'Make in India' and the domestic manufacturers of power tillers must be accorded preference.

9.2 The Domestic Companies needs to be provided adequate support to make its product competitive in comparison to the imported products through appropriate moderation of tariff and streaming the domestic taxes by making it less onerous to boost 'Make in India' campaign. On the other hand, the farmers' interest must be protected as it is understood that a number of Chinese power tillers, basically imported by traders lacks in after-sales service and there are concerns of the availability of spare parts.

9.3 Export-related incentives need to be provided to the domestic power tiller manufacturers. Further "providing subsidies, lowering the cost of capital" and creating special economic zones for some or all manufacturing activity in particular will reduce the cost of doing business, increase profitability, and hence encourage the domestic manufacturer to increase investments.

9.4 A quota sets a numerical limit on how much of a product can be imported into a country. This helps to protect producers of domestic products from facing too much competition and ultimately going out of business. Ultimately, quotas benefit and protect the producers of a good in a domestic economy. Looking into the production potential of the domestic power tiller industries, the import quota can also be fixed for power tillers.

9.5 Incentivizing the domestic industry through production subsidy, which can be made available to the producer at the point of sale itself, can also be thought of.

9.6 The power tiller market largely depends on the Government subsidy. The issues of simplified procedure for distribution of subsidy, preferential treatment to indigenous power tillers, selection of supplier on lowest cost basis, elimination of mediator agencies in the supply chain, timely release of subsidy etc. needs to be addressed appropriately at the State level.

9.7 Regionally spread awareness among the buyers is also necessary for which Campaign by the indigenous manufacturers in association with the State Governments would be helpful. The Chinese product should be easily identifiable. The service network and availability of spare parts needs to be given due importance while empanelling the suppliers of power tillers under the subsidy programmes.

10. QUALITY PARAMETERS APART FROM THE EXISTING PERFORMANCE PARAMETERS AND SUGGESTING THE PARAMETERS SO THAT ONLY QUALITY POWER TILLERS ARE IMPORTED.

10.1 The committee has examined the existing parameters applicable for Qualifying Minimum Performance Criteria as per IS 13539: 2008 and recommended to modify the same so that only quality power tillers are marketed and available to the farmers. The existing and proposed changes are indicated as under:

Table 6: SELECTED PERFORMANCE CHARACTERISTICS

Sl. No.	Characteristics	Existing				Proposed			
		Category (Evaluative / Non Evaluative)	Requirement	Tolerance	Remarks	Category (Evaluative / Non Evaluative)	Requirement	Tolerance	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Engine performance								
a)	Maximum power under 2 h test, kW (hp)	Evaluative	(To be declared by manufacturer)	Declared value to be achieved with a tolerance of: -7.5 / +15 percent of the declared value	-	Evaluative	(To be declared by manufacturer)	No Change	
b)	Power at rated engine speed, kW(hp)	Non Evaluative	-do-	±5 percent	-	Evaluative	(To be declared by manufacturer)	±5 percent	
c)	Specific fuel consumption corresponding to maximum power {g/kWh (g/bhph)}	Non Evaluative	-do-	±5 percent	-	Non Evaluative	(To be declared by manufacturer)	No Change	
d)	Specific fuel consumption corresponding to rated Horse power {g/kWh (g/bhph)}	Non-evaluative	-do-	±5 percent	-	Non-evaluative	(To be declared by manufacturer)	No change	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
e)	Maximum equivalent crankshaft torque, Nm	Non Evaluative	-do-	±8 percent	-	Evaluative	(To be declared by manufacturer)	Declared value to be achieved with a tolerance of ±8 percent	
f)	Maximum operating temperature (ºC)								
	1) Engine oil	Evaluative	To be declared by the manufacturer under high ambient conditions.	Nil	--	Evaluative	To be declared by the manufacturer under high ambient conditions. The declared value should not exceed the maximum value specified by the Oil Company and the observed value under high ambient condition should not exceed the declaration.	Nil	Applicant shall supply the recommendation of oil company along with the application form.
	2) Coolant	Evaluative	To be declared by the manufacturer under high ambient conditions.	Nil	--	To be declared by the manufacturer under high ambient conditions.	Nil	The declared value should not exceed the boiling temperature of coolant under the pressurized condition and the observed value under high ambient condition should not exceed the declaration.	Declared value should be less than boiling point of water under the test condition.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
g)	Lubricating oil consumption, g/kWh (g/hph)	Evaluative	Not exceeding 1 percent of SFC at max. power under High ambient conditions	+10 percent	--	Evaluative	Not exceeding 1 percent of SFC at max. power under High ambient conditions	Nil	--
h)	Maximum coolant (water) consumption (percent of total coolant capacity)	Non-evaluative	To be declared by the manufacturer under high ambient conditions.	--	--	Evaluative	To be declared by the manufacturer under high ambient conditions.	Should not exceed 35% of the total coolant capacity	--
j)	Smoke level	Evaluative	Maximum light absorption Coefficient of 3.25 per metre or Equivalent BOSCH No 5.2 or 75 hatridge value (as per CMVR)	Nil	--	Evaluative	Maximum light absorption Coefficient of 3.25 per metre or Equivalent BOSCH No 5.2 or 75 hatridge value (as per CMVR)	Nil	--
k)	Overheating tendency of the engine	Evaluative	Satisfactory completion of two hours test under high ambient condition	--	--	Evaluative	Satisfactory completion of two hours test under high ambient condition	--	--
2	Rotary shaft performance								
a)	Maximum power under 2 hours test. kW (Ps)	Evaluative	Minimum 75% of observed maximum bhp for power tiller above 5 hp and 65% for the power tiller below 5 hp.	--	--	Evaluative	Minimum 80% of observed maximum bhp for power tiller above 8 hp and 75% for the power tiller below 8 hp.	--	--

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
b)	Power at rated engine speed, kW (Ps)	Non Evaluative	To be declared by the manufacturer	-10 percent	-	Evaluative	Minimum 75% of observed maximum bhp for power tiller above 8 hp and 70% for the power tiller below 8 hp.	--	--
c)	Specific fuel consumption corresponding to power at rated engine speed, {g/kWh (g/bhph)}	Non Evaluative	-do-	+10 percent	-	Evaluative	To be declared by the manufacturer	Declared value to be achieved with a tolerance of ± 5 percent	-
d)	Maximum equivalent rotary shaft torque, Nm (kgf-m)	Non-evaluative	-do-	±8 percent	-	Evaluative	-do-	-5 percent	-
e)	Maximum operating temperature of rotary transmission Oil (^{o}C)	Non-evaluative	-do-	--	The observed value should not exceed the maximum value specified by the manufacturer.	Evaluative	To be declared by the manufacturer. The declared value should not exceed the maximum value specified by the Oil Company.	--	Applicant shall supply the recommendation of oil company along with the application form.
f)	Rotary shaft power rating, kW (I's)	Non-evaluative	-do-	--	--	To be deleted as rotary shaft power has been made evaluative			
3	**Drawbar Performance**								
i)	Earthern track (with steel wheels)					To be deleted as no power tillers with steel wheels are sold			
a)	Maximum drawbar pull, kN (kgf)	Evaluative	Minimum 60 percent of static mass with ballast.	-Nil-	--	--do--			

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
b)	Maximum drawbar power, kW (Ps)	Non Evaluative	To be declared by the manufacturer.	-do-	--	--do--			
ii)	Concrete track (with pneumatic wheels)								
a)	Maximum drawbar pull corresponding to 15 percent wheel slip, kN (kgf)	Evaluative	Minimum 60 percent of static mass with ballast.	-Nil-	--	Evaluative	Minimum 65% percent of static mass with ballast.	-Nil-	--
b)	Maximum drawbar power, kW (Ps)	Non-evaluative	To be declared by the manufacturer	- 10 percent	--	Evaluative	To be declared by the manufacturer	- 5 percent	--
c)	Maximum transmission oil temp (“C)	Non Evaluative	To be declared by manufacturer	-Nil-	--	Evaluative	To be declared by the manufacturer. Manufacturer’s declaration should not exceed the one of oil company	Nil	Test applicant shall supply the recommendation of oil company along with the application form.
4	Brake Performance								
i)a)	Service brakes	Evaluative	Should meet the requirements under CMVR	--	--	Evaluative	7.5m/ as per the requirement of CMVR		
b)	Maximum force exerted to apply the brake. (N)	Evaluative	As per the requirements under CMVR	--	--	Evaluative	600N/ as per the requirement of CMVR		
c)	Observation on rotation on drive wheels (power tillers) at a slope of 12 percent with trailer having gross mass recommended for haulage	Evaluative	As per CMVR	Yes / No	--	Evaluative	--	Yes / No	--

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
ii)	Parking Brakes								
a)	Observation on rotation of cranked wheels at the slope of 12 percent , facing up and facing down	Evaluative	No rotation of drive wheels at a slope of 12 percent facing up and facing down	Yes / No	--	Evaluative	No rotation of drive wheels at a slope of 12 percent facing up and facing down	Yes / No	--
5.	Air cleaner oil pull over Maximum percentage of oil pull over (mass basis)	Evaluative	0.25	-	-	Evaluative	0.20	-	-
6.	Noise Level: a) Maximum ambient noise emitted by the power tiller, dB(A)	Evaluative	As per CMVR	-	-	Evaluative	As per CMVR/IS: 12239(Pt.3)-1988	-	-
	b) Maximum noise at operators' ear level dB(A)	-do-	As per CMVR	-	-do-	Evaluative	As per CMVR/IS: 12239(Pt.3)-1988	-	-
7.	Amplitude of Mechanical Vibration at: a) Steering handle grips	Non-evaluative	100 m Max	-	-	Evaluative	300 m Max	-	-
	b) Gear levers	-do-	100 m Max	-	-	Non-evaluative	100 m Max	-	-
	c) Clutch/brake lever(s)	-do-	100 m Max	-	-	-do-	100 m Max	-	-
	d) Rotary shaft speed change lever	-do-	100 m Max	-	-	-do-	100 m Max	-	-
	e) Steering clutch levers	-do-	100 m Max	-	-	-do-	100 m Max	-	-
	f) Accelerator lever	-do-	100 m Max	-	-	-do-	100 m Max	-	-
	g) Operators seat (with trailer attached)	-do-	100 m Max	-	-	-do-	100 m Max	-	-
	h) Foot rest (if provided)	-do-	100 m Max	-	-	-do-	100 m Max	-	-

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
9.	Haulage Performance: a) Gross load of trailer (t)	Non-evaluative	To be declared by the manufacturer	-	-	Evaluative	To be declared by the manufacturer	-	-
	b) Distance travelled/litre of fuel consumption (km)	-do-	-do-	-	-	Evaluative	To be declared by the manufacturer	-	-
	c) Fuel consumption (cc/km/gross load tonne)	-do-	-do-	-	-	Evaluative	To be declared by the manufacturer	-	-
10.	Suitability for wet land cultivation	Evaluative	Effective sealing to be provided for engine sump, clutch assembly , gear box , chain case and rotary shaft housing	-	The entry of mud/water should not take place in components/ sub assemblies such as engine, clutch, gear box, chain case and rotary shaft housing	Evaluative	Effective sealing to be provided for engine sump, clutch assembly , gear box , chain case and rotary shaft housing	-	The entry of mud/water should not take place in components/ sub assemblies such as engine, clutch, gear box, chain case and rotary shaft housing
11	Stationery Operations	Evaluative	Should have the provision for power outlet for stationery operations or recommended agricultural appliances	-	-	Evaluative	Should have the provision for power outlet for stationery operations or recommended agricultural appliances	-	-

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
12.	Discard Limit (mm): a) Cylinder bore diameter	Evaluative	To be specified by the manufacturer in printed literature	--	--	Evaluative	To be specified by the manufacturer as per the printed literature of engine manufacturer.	--	Manufacturer shall provide printed literature of engine manufacturer.
	b) Piston clearance	-do-	-do-	-	-	-do-	-do-	-	-do-
	c) Ring end gap	-do-	-do-	-	-	-do-	-do-	-	-do-
	d) Radial percent axial clearance of big and bearing	-do-	-do-	-	-	-do-	-do-	-	-do-
	e) Ring groove clearance	-do-	-do-	-	-	-do-	-do-	-	-do-
	f) Thickness of clutch lining	-do-	-do-	-	-	-do-	-do-	-	-do-
	g) Radial and axial clearance of main bearings	-do-	-do-	-	-	-do-	-do-	-	-do-
13.	Safety requirements: a) Provision of guards on moving parts other than rotavator	Evaluative	Yes	-	-	Evaluative	Yes	-	-
	b) Location and direction of exhaust emission to be away from the operator and machines for stationary operation	-do-	Yes	-	-	-do-	Yes	-	-
	c) Covers on hot parts	-do-	Yes	-	-	-do-	Yes	-	-
	d) I.ocking of parking stand lever	-do-	Yes	-	-	-do-	Yes	-	-

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	e) Protective shield for rotavator to prevent flying of mud and stones	-do-	Yes	-	-	-do-	Yes	-	-
	f) Accidental engaging of reverse speed gear when rotary is in operation	-do-	Yes	-	-	-do-	Yes	-	-
	g) Provision of Head - lights	-do-	Yes	-	-	-do-	Yes	-	-

10.1 ACCEPTANCE CRITERIA FOR PERFORMANCE CHARACTERISTICS

The product may be accepted for performance after confirming compliance to all evaluative requirements as indicated in above table. In case of a parameter not meeting evaluative requirements of this standard, the power tiller may be rejected and fresh sample randomly selected from the production/lot may be tested again. The repeat and supplementary tests may be done away with.

10.2 ACCEPTANCE CRITERIA IN CASE OF BREAKDOWNS/DEFECTS

The product may be accepted subject to the condition that there is no critical and major breakdown during its validation after all tests and there are not more than three minor defects during the test and the frequency of each minor defect is not more than two. In case of breakdowns the power tiller should be treated as failed and its incomplete report may be released. Repeat and supplementary test may not be done and testing may be done on the freshly picked up sample through random selection.

11. PERMISSIBLE PROCEDURE FOR SUBSIDY INPUTS SOUGHT TO BE GIVEN FOR INDIAN POWER TILLER INDUSTRY

11.1 Any subsidy provision mandating preference to domestic manufacturers would be WTO incompatible both under Article 3.1(b) of Agreement on Subsidies and Countervailing Measures (ASCM), Article III of General Agreement on Tariff and Trades (GATT), Article 2.1 of Trade-Related Investment Measures (TRIMs).

11.2 Article 3.1 of ASCM deals with prohibited subsidy when the subsidy is contingent upon export performance or domestic content requirements (DCR). However, Article 3.1 provides exemption to the provisions available under Agreement on Agriculture (AOA). Though, AOA allows certain export subsidies (Article 9 of AOA), the relevant provision on domestic support stated in Article 6 (in particular Article 6.2 & 6.3 and Annex II of AOA) does not specifically mention about subsidies contingent upon DCR.

11.3 The matter has been discussed in DOC and with the concerned legal experts. It is understood that DCR is not allowed even under AOA. On further perusal of the existing WTO jurisprudence (Analytical Index), it would be evident that the benefit of DCR is not available even under domestic support under AOA. The relevant portion of the WTO jurisprudence is indicated below:-

"Except as provided in the Agreement on Agriculture" stated in Article 3.1 of ASCM:

124. In *US — Upland Cotton*, the Appellate Body noted that the introductory phrase "[e]xcept as provided in the Agreement on Agriculture" applies to both paragraphs (a) and (b) of paragraph 1 of Article 3, which deal with both export subsidies and import substitution subsidies, respectively. However, the Appellate Body found no provision in the Agreement on Agriculture that dealt specifically with import substitution subsidies (see also paragraphs 184–187 below):

"We are mindful that the introductory language of Article 3.1 of the SCM Agreement clarifies that this provision applies '[e]xcept as provided in the Agreement on Agriculture'. Furthermore, as the United States has pointed out, this introductory language applies to both the export subsidy prohibition in paragraph (a) and to the prohibition on import substitution subsidies in paragraph (b) of Article 3.1. As we explained previously, in our review of the provisions of the Agreement on Agriculture relied on by the United States, we did not find a provision that deals specifically with subsidies that have an import substitution component. By contrast, the prohibition on the provision of subsidies

Contingent upon the use of domestic over imported goods in Article 3.1(b) of the SCM Agreement is explicit and clear. Because Article 3.1(b) treats subsidies contingent on the use of domestic over imported products as prohibited subsidies, it would be expected

*that the drafters would have included an equally explicit and clear provision in the Agreement on Agriculture if they had indeed intended to authorize such prohibited subsidies provided in connection with agricultural goods. We find no provision in the Agreement on Agriculture dealing specifically with subsidies contingent upon the use of domestic over imported agricultural goods."(**217**)*

11.4 **Article 6.3 of the Agreement on Agriculture**

79. In the dispute on *US — Upland Cotton*, the Panel and Appellate Body examined the issue of whether Article 3.1(b) of the SCM Agreement is inapplicable to payments that are consistent with a Member's domestic support reduction commitments under Article 6.3 of the Agreement on Agriculture. The Appellate Body agreed with the Panel that "Article 6.3does *not* provide that compliance with such 'domestic support reduction commitments' shall necessarily be considered to be in compliance with other applicable WTO obligations. Nor does it contain an explicit textual indication that otherwise prohibited measures are necessarily justified by virtue of compliance with the domestic support reduction commitments."(**120**)

"Article 6.3 does not explicitly refer to import substitution subsidies. Article *deals with domestic support. It establishes only quantitative limitation on the amount of domestic support that a WTO Member can provide in a given year. The quantitative limitation in Article 6.3 applies generally to all domestic support measures that are included in a WTO Member's AMS. Article 3.1(b) of the SCM Agreement prohibits subsidies that are contingent — that is, 'conditional' — on the use of domestic over imported goods.*

Article 6.3 does not authorize subsidies that are contingent on the use of domestic over imported goods. It only provides that a WTO Member shall be considered to be in compliance with its domestic support *reduction commitments* if its Current Total AMS does not exceed that Member's annual or final bound commitment level specified in its Schedule. It does not say that compliance with Article 6.3 of the *Agreement on Agriculture* insulates the subsidy from the prohibition in Article 3.1(b)."(**121**)

11.5 In the light of above, it is stated that any subsidy contingent upon DCR, shall not be WTO compliant. Hence other ways of incentivizing the domestic industry say through production subsidy, which can be made available to the producer at the point of sale itself, can be thought of as an alternative.

11.6 The existing provision of the Sub-Mission on Agricultural Mechanization without any discrimination between the imported and the domestically manufactured power tillers, when the subsidy is provided to the farmers on their purchase, is WTO compatible.

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Annexure-I

No.13-2/2014- M&T (I&P)
Government of India
Ministry of Agriculture & Farmers Welfare
(Department of Agriculture, Cooperation & Farmers Welfare)
Room No. 573,Krishi Bhawan,
Dr. Rajendra Prasad Road,
New Delhi -110001

17th December, 2015

OFFICE MEMORANDUM

The undersigned is directed to invite a reference to this Department's OM of even number dated 3rd November 2015 (copy enclosed for ready reference) regarding constitution of Expert Committee to look into various issues of power tillers raised in the meeting of Parliamentary Standing Committee on Agriculture.

It has been decided to include the member from the Ministry of Commerce and Industry in this Expert Committee in place of the Member to be nominated by the Department of Economic Affairs. The Terms of Reference (TOR) of the Committee will remain the same.

This is issued with the approval of the competent authority.

Encl: as above

(A.N.Meshram)
Deputy Commissioner (M&T)
Telefax.No.23382922
Email: arvind.meshram@nic.in

Distribution:

1. Dr. K. Alagusundaram, DDG (Agril. Engg.), Indian Council of Agricultural Research (ICAR), Krishi Anusandhan Bhavan –II, Pusa, New Delhi – 110012
2. Dr. Kanchan Kumar Singh, ADG (FE), Indian Council of Agricultural Research (ICAR), Krishi Anusandhan Bhavan –II, Pusa, New Delhi – 110012
3. Dr. K.K.Singh, Director, Central Institute of Agricultural Engineering (CIAE), Nabi Bagh, Berasia Road, Bhopal- 462038
4. Dr. C. Divakar Durairaj, Dean (Agril. Engg.), Agril. Engineering College and Research Institute, Tamil Nadu Agricultural University, Coimbatore – 641 003, Tamil Nadu
5. Shri Sudhanshu Pandey, Joint Secretary (Trade Policy Division), Department of Commerce, Ministry of Commerce and Industry, Udyog Bhavan, New Delhi – With the request to kindly nominate suitable officer on this Expert Committee.

Copy for information to: (i) PPS to Sec (AC&FW) (ii) PPS to AS (JS) (iii) PPS to JS (M&T)

No.13-2/2014- M&T (I&P)
Government of India
Ministry of Agriculture & Farmers Welfare
(Department of Agriculture, Cooperation & Farmers Welfare)
Room No. 573,Krishi Bhawan,
Dr. Rajendra Prasad Road,
New Delhi -110001

3rd November, 2015

OFFICE MEMORANDUM

The undersigned is directed to inform that the Department of Agriculture, Cooperation & Farmers Welfare has constituted an expert committee as under to look into various issues of power tillers:

1. Dr. K. Alagusundaram, DDG (Agril. Engg.), ICAR – Chairman
2. Dr. Kanchan Kumar Singh, ADG (FE), ICAR – Member
3. Dr. K.K.Singh, Director, CIAE, Bhopal – Member
4. Dr. C. Divakar Durairaj, Dean (Agril. Engg.), TNAU, Coimbatore – Member
5. Member nominated by Department of Economic Affairs
6. Shri A. N. Meshram – DC (M&T), DAC&FW – Convener

The Terms of Reference (TORs) of the Committee will be as under:

(i) Study the manufacturing cost of the Indian Power Tillers
(ii) Study the cost of imported power tillers.
(iii) Comparative study of the quality and performance of the indigenous and imported power tillers
(iv) Suggesting incentives to promote Indian power tiller industries.
(v) Framing quality parameters apart from the existing performance parameters and suggest the parameters so that only quality power tillers are imported.

The Committee will also suggest permissible procedure in consultation with Department of Economic Affairs to ensure that any subsidy inputs sought to be given for Indian power tiller industry do not prima facie violate the WTO agreements. The committee will submit the detailed report within two months.

This is issued with the approval of competent authority.

(A.N.Meshram)
Deputy Commissioner (M&T)
Telefax.No.23382922
Email: arvind.meshram@nic.in

Distribution:

1. Dr. K. Alagusundaram, DDG (Agril. Engg.), Indian Council of Agricultural Research (ICAR), Krishi Anusandhan Bhavan –II, Pusa, New Delhi – 110012
2. Dr. Kanchan Kumar Singh, ADG (FE), Indian Council of Agricultural Research (ICAR), Krishi Anusandhan Bhavan –II, Pusa, New Delhi – 110012
3. Dr. K.K.Singh, Director, Central Institute of Agricultural Engineering (CIAE), Nabi Bagh, Berasia Road, Bhopal- 462038
4. Dr. C. Divakar Durairaj, Dean (Agril. Engg.), Agril. Engineering College and Research Institute, Tamil Nadu Agricultural University, Coimbatore – 641 003, Tamil Nadu
5. Shri K Nagaraj Naidu, Director [Investment, Technology, Promotion] Division, Ministry of External Affairs, Room No. 2087, Jawahar Lal Nehru Bhawan, New Delhi – With the request to kindly nominate suitable officer on this Expert Committee.

Copy for information to: (i) PPS to Sec (AC&FW) (ii) PPS to AS (JS) (iii) PS to JS (M&T)