

Example of an MDF Measurement Plan (from Pakistan)

Note that the names of companies and regional governments have been taken out to protect confidentiality.

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Target Beneficiaries		dairy & meat farmers who buy silage (bales & open); dairy & meat farmers who use rental services to produce silage; maize farmers selling to SE's; labourers employed by SE's, maize farmers, livestock farmers.					
Attribution Strategy per actor (check flowchart in comment)	livestock farmers	before and after comparison with control group	labour	interviews to validate links in results chain	Silage Entr.	interviews and sales record to validate links in the results chain	Explanation of attribution strategy (beneficiaries): (Livestock farmers: BAC + control is a good method because silage is a new innovation (wheat straw was fed before); comparison with a control group to isolate other factors contributing to milk+meat yield.) (Maize farmers: BAC is a good method because farmers are switching to a new cropping pattern).
	maize farmers	before and after comparison	Partner Company	interviews and sales record to validate links in the results chain	Other companies (Uptake + Machines)		
Displacement (see comment)		No displacement at the beneficiary or service provider level because high demand for milk, and few options of fodder in fodderless seasons.					
External Influences		Irregular rain impacting fodder availability and maize crop; animal diseases					
Level	Box no.	Box	Key Indicators	Key Questions to Ask	Means of Verification	When	Who
Poverty Level	26	Improved well being	Improvements in well-being (nutrition, better investment, time saving for women) for livestock farmers, maize farmers and labourers	What do you do with the increased milk yields? What do you do with increase income in the hosue? Have you made any new investment? What were the reason of making that investment? Do you or your member of your household find silage more convenient? What way? WEE: (Emerge from questions in Box 34 and 35)	Additional employment, additional income and improved well being will be verified and calculated based on the 2017 and 2019 surveys of farmers and SEs referred to below.	March 2016 March 2017 March 2019	Partnership Manager + RMS
	25	Additional income generated	Additional income for livestock farmers (Rs) Additional income for maize farmers Additional income for Laborers	What are the costs associated with improving milk yields and animal health? How much profit were you able to earn through sales of milk and meat? WEE: If there are more household resources and women's roles change (from homegrown fodder cultivation to silage) does that influence decision making authotiry within the household, increased control over household expenditures, or household investments that benefit them? Did workloads remain manageable?			
	24	Additional employment created	# of FTE created at Ses facility # of FTE created at livestock farms # of FTE created at maize farms	SE: Have you hired any additional labour as a result of producing silage? Farmer:Have you hired additional labor as a result of feeding silage to your silage? Maize Farmers: Have you hired additional labor as a result of supplying silage maize to SEs? How many additional labourers have you hired? WEE: Did women have access to more employment opportunities? Did they benefit from these opportunities in terms of increased decision making authotiry within the household, increased control over household expenditures, or household investments that benefit them? Did workloads remain manageable?			

Level	Box no.	Box	Key Indicators	Key Questions to Ask	Means of Verification	When	Who
Sector / Enterprise	23	Other farmers earn profit by sale of increased quantity of milk at better prices and sale of animals at higher price.	Profit generated by the sale of increased milk and receiving higher prices for other farmers Profit generated by the sale of increased weight of livestock for other farmers	How much milk do you sell in total? Do you sell all the additional milk yields? If not, how much of the additional yields do you sell? What is the price/litre at which you sell your milk? Have you sold any animals since you started feeding silage? If so, were you able to obtain a better price for it? What price did you receive/kg?	March 2017: Livestock farmers: In-depth interviews (16 interviews; 8 with farmers with a herd size of less than 10, and 8 with farmers with a herd size of more than 10) and in-house verification survey with 24 livestock farmers (12 with herd size of 10 or less & 12 with herd size of more than 10). Maize farmers: In-depth interviews with 4 maize farmers (verification surveys to be decided based on how many farmers SE's are actually buying from; maximum of 20 farmers would be interviewed for surveys if the projected value of 96 farmers is achieved)	March 2016 March 2017 March 2019	Partnership Manager + RMS
	22	Other farmers experience increased yields and quality in milk and animal health improves	# of other farmers feeding silage and experiencing high milk yields Additional yield (litres) of milk Increased fat content # of other farmers feeding silage and experiencing better health Weight increase of livestock (kgs)	How long have you been feeding silage? What is the milk yield of your animals? Do you see improvements in milk quality and animal health? How? What are the reasons of the improvements?			
	21	Other farmers copy and feed silage to their livestock	# of other farmers feeding silage properly to their livestock	How many animals farmers feed silage to? How much silage do they feed silage to their silage? How often do they feed silage to their animals? WEE: Are women in the copying households using silage correctly? Are there other consequences of using silage - eg. impact on workloads?			
	20	Farmers earn profit by sale of increased quantity of milk at better prices and sale of animals at higher price	Profit generated by the sale of increased milk and receiving higher prices for farmers Profit generated by the sale of increased weight of livestock for farmers	How much milk do you sell in total? Do you sell all the additional milk yields? If not, how much of the additional yields do you sell? What is the additional price/litre at which you sell your milk? Have you sold any animals since you started feeding silage? If so, were you able to obtain a better price for it? What price did you receive/kg?			
	19	Farmers experience increased yields and quality in milk and animal health improves	# of farmers feeding silage and experiencing high milk yields Additional yield (litres) of milk Increased fat content # of farmers feeding silage and experiencing better health Weight increase of livestock (kgs)	How long have you been feeding silage? Have you noticed any improvements in milk yields and quality (fat content), and/or health as a result of feeding silage? If so, how much have your milk yields increased? How has the quality of milk improved? What do you feed silage in combination with? Have you started using any new fodders at the same time that you started using silage? If so, how did you learn about it? If there are improvements in milk yields and quality, how long did it take for milk yields and quality to increase and/or animal health to improve? How much additional milk are you getting as a result of feeding silage?			
	18	Farmers feed silage to their livestock	# of farmers feeding silage properly to their livestock	How many animals do farmers feed silage to? Does this include both dairy and meat animals or only milking animals? How much silage is fed per animal? For how many days did you feed silage to your livestock? WEE: Are women in the household using silage correctly? Are there other consequences of using			

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	17	Farmers shift to a more profitable cropping pattern	Additional profit from new cropping pattern	What cropping pattern before and you were earning from it? What cropping pattern now and you are earning from it?			
	16	SE's sales and rental services increase	Revenue and profits from silage sales and renting out of machinery (Rs)	What volume of silage is sold? How much do you sell per kg of silage for? How much revenue and profit generated from sales	March 2017 & March 2019: In-depth interview with Ses.	March 2016 March 2017 March 2019	Partnership Manager + RMS
Outcome	15	Farmers buy silage from SEs	# of farmers buying silage from Ses Tonnage of silage sold	How many farmers are buying silage? How many bales bought by farmers? How much loose silage bought by farmers? How frequently do farmers buy silage from SE? How much loose silage do farmers buy on average? What is the demographic of farmers buying silage? (categorized according to acres of land and no. of animals and MDF's definition of who qualifies as a poor farmer?)			
	14	Livestock farmers produce silage for on-farm consumption	# of farmers who have rented machinery for silage Tonnes of silage produced by livestock farmers for their own consumption	How much silage are they producing? Are you able to produce silage of the appropriate quality? Do you have access to the required technical support from the silage entrepreneurs? If not, do you approach anyone else for support? WEE: Is there more work for women as a consequence of shift towards more maize cultivation?			
	13	Farmers understand the usage and benefits of silage	# of farmers demanding silage from entrepreneurs # of farmers who are aware as a result of outreach activities	What information did you receive through farmer days/marketing material? Was it useful? How has it changed your perspective on feeding silage? WEE: Are women sufficiently informed about how silage should be used, and to make trade-offs between buying silage and other homegrown and/or bought fodder options (workload in case of homegrown)?			
	12	Farmers start supplying silage corn to SE's	# of farmers who start supplying silage maize Tonnes of silage maize supplied to Ses	How many farmers do you procure maize from? What is the demographic of farmers you are procuring from (categorized according to land size and no. of animals, according to MDF's definition of who is poor)? How much do you pay farmers/acre of maize?			
	11	SEs procure additional machinery for service provision on silage production to other livestock farmers for on-farm consumption	# of SES who procure additional machinery	Who did you rent out machinery to? How long did you rent your machinery for? How much did you rent it for? What advice did you give to other livestock farmers? Did you provide labor along with service?			
	10	SEs rent out machinery for service provision on silage production to livestock farmers for on-farm silage consumption	# of Ses who rent machinery for silage production # of farmers rented to Earnings from rental	What machinery did you rent out for silage production? What are the rentals you charge for each machine? How many farmers have you rented the machinery to? What is the demographic of farmers who have rented your machinery (categorized according to land size and no. of animals, in line with MDF's definition of poor farmers)? How many acres of silage has been produced through your rental services?			

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Output	9	SEs produce quality silage for sale	Tonnes of silage produced by SEs Quality of silage	Volume of quality silage produced? How many silage bales were prepared? How much silage was prepared for open sales?	<p>March 2017 & March 2019: In-depth interview with Ses; SE's maize procurement records; SE's rental records; Attendance sheet of farmer days; Copy of radio/cable tv ad; copy of brochures/flexes etc.; Ses corn purchasing record</p>	<p>March 2016 March 2017 March 2019</p>	<p>Partnership Manager + RMS</p>
	8	SEs conduct farmer days, produce brochures and ads to inform farmers about silage	Number of field days and expected outreach Number of brochures produced Ads played for silage awareness	Location of farmer days? How many farmer days? How were farmers invited to the farmer days? How many farmers attended the farmer days? How many brochures were produced? Where were the brochures distributed? When and where was the ad displayed? What was the information given in the ads? If any of the marketing activities were not conducted, why not? How many farmers received brochures? How many farmers have seen the ad? WEE: Are women able to access information on silage? Has information on silage reached women?			
	7	SEs are able to operate and use the machinery and have the technical ability to produce silage	Ses have capacity and support to use machinery and use it for silage making	How useful has the machinery been? Are you regularly using all the machinery? If you are not using a particular machine, why? In times when mechanical assistance is required for any of the machines, is it readily available?			
	6	SEs cultivate corn for making silage and purchase more corn for silage from other farmers	Additional acreage of corn cultivated by SEs Additional acreage of corn purchased by Ses	How much corn did you cultivate for silage production per season? How much corn did you purchase for silage production per season? WEE: Is there more work for women as a consequence of shift towards more maize cultivation?			
	5	SEs receive continuous guidance from Partner Company on making silage	Information shared by Partner Company How often information is shared	What sort of informaion do SE's inquire about and how frequently? Is support from Partner Company available when you need it? What did you need guidance on? How did you use the information received? How useful did you find the information? If it was not useful, did you seek advice elsewhere?			
Activities	4	SEs procure machinery to harvest, prepare and bale silage	Number and type of machinery procured	Have you purchased machinery to harvest and chop maize? Have you purchased machinery available to bale and wrap silage?	In-depth interview with SEs, Machinery procurement documentation, Observations	Jun-15	Partnership Manager
	3	SEs develop a plan for field days	Field Plan shared	No. of field days planned per SE	The field day plan for each SE	Apr-15	Partnership Manager
	2	Partner Company and MDF select and MDF signs PAs with entrepreneurs for silage making	PA signed	What are the contents of the PA?	PA with Ses	Feb-15	Partnership Manager
	1	MDF signs an MOU with Partner Company to identify and provide technical assistance to silage entrepreneurs (SEs)	MOU signed	What are the contents of the MoU?	MOU between Partner Company and MDF	Oct-14	Partnership Manager

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Systemic Change							
Poverty	43	Increased well being	Improvements in well-being (nutrition, better investment, time saving for women) for livestock farmers, maize farmers and labourers	What do you do with the increased milk yields? What do you do with increase income in the house? Have you made any new investment? What were the reason of making that investment? Do you or your member of your household find silage more convenient? What way? WEE: Refer to questions in Box 36	TBD	TBD	Partnership Manager + RMS
	42	Additional income generated	Additional income for livestock farmers, maize farmers and labourers	What are the costs associated with improving milk yields and animal health? How much profit were you able to earn through sales of milk and meat? What were your costs and income from livestock before using silage? What are your costs and income now? WEE: Refer to question in Box 35			
	41	Additional employment created	Additional employment (FTE) created at SE, maize farmers, livestock farmers	Have you hired any additional labour (persons or person days) as a result of producing silage? How many additional labourers have you hired? Have you hired additional labor for your livestock farm? How many labourers are now working extra hours? How many hours? WEE: Refer to questions in Box 34			
Sector / Enterprise Level	40	Farmers in Company A areas earn profit by sale of increased quantity of milk at better price and sale of animal at higher price	farmers in Company A area earn more as a result of using silage.	How much milk do you sell in total? Do you sell all the additional milk yields? If not, how much of the additional yields do you sell? What is the additional price/litre at which you sell your milk? Have you sold any animals since you started feeding silage? If so, were you able to obtain a better price for it? What price did you receive/kg?	In-depth interviews with xx silage using farmers in Company A areas	TBD	Partnership Manager + RMS
	39	Farmers in Company A areas experience increased yields and quality in milk and animal health improves	farmers in Company A area milk yield and quality, and animal health improves by using silage	How long have you been feeding silage? Have you noticed any improvements in milk yields and quality (fat content), and/or health as a result of feeding silage? If so, how much have your milk yields increased? How has the quality of milk improved? What do you feed silage in combination with? Have you started using any new fodders at the same time that you started using silage? If so, how did you learn about it? If there are improvements in milk yields and quality, how long did it take for milk yields and quality to increase and/or animal health to improve?			
	38	Farmers in Company A areas feed silage to their livestock	Farmers in Company A area feed silage to their animals	How many animals do farmers feed silage to? Does this include both dairy and meat animals or only milking animals? How much silage is fed per animal? WEE: Are women in Company A area households using silage correctly? Are there other consequences of using silage - eg. impact on workloads?			

Level	Box no.	Box	Key Indicators	Key Questions to Ask	Means of Verification	When	Who
	37	Financial service providers develop silage specific products to enable more silage entrepreneurs to enter the market					
	36	Ag-machinery manufacturers/entrepreneurs start locally manufacturing and selling silage production machinery					
	35	Rural farmers and/or other entrepreneurs purchase silage machinery to rent out to livestock farmers for on-farm silage production					
	34	Rural farmers and/or other entrepreneurs purchase silage production machinery to produce and sell silage, and rent out machinery for on-farm silage production			TBD	TBD	Partnership Manager + RMS

Level	Box no.	Box	Key Indicators	Key Questions to Ask	Means of Verification	When	Who
Outcome	33	Region A government moves into small bales of silage					
	32	Region B government sets up farmer communities and sells machinery (subsidised) to them for the production and sale of small bales of silage (subsidised price)					
	31	Company B starts selling 60kg bales of silage in harder to reach areas (machinery not available) through their input shops					
	30	Company A start selling silage (bales of different sizes, open silage) in Southern Punjab (with machinery available) and Northern Sindh (machinery not available) through input shops and their village milk collectors		How much silage is Company A selling? Where is Company A selling silage? Is the silage good quality? What is the form Company A is selling silage - open/baled - bale size?	In-depth interview with Company A		
	29	Company A visits MDF supported SEs to better understand the small bale silage model	Meeting between Company A and SEs	Did Company A visit MDF supported Ses? What information did they get from them?	MDF meeting minutes	Oct-15	Partnership Manager
Activities	28	Partner Company shares learnings from small bale silage model with Company B	Meetings held between MDF and Company B	Do you know about small bale silage business in Region A? Who did you hear from? What did you learn? When did you learn about the small bale silage business?	In-depth interview with Company B	May-16	Partnership Manager
	27	MDF shares learnings from small bale silage model with Company A	Meetings held between MDF and Company A	What information was shared by MDF with Company A? Did you learn about the small bale silage model from MDF? What did you learn?	MDF meeting minutes	Aug-15	Partnership Manager