Climate Risk Management framework

Version 1.0

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Risk Management & Compliance Department

Development & Review Log

Climate Risk Management guidelines are derived from AKAM guidelines and other best practices to mitigate climate risk faced by FMFB.

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1. Preamble ~Climate Risk

1.1. Unexpected and severe climate change is affecting both natural and human systems with increasing concern about its implications on poverty, economic growth, livelihood opportunities as well as overall human development and institutional sustainability.

1.2. Climate related disasters destroy human lives, property, social and cultural assets of the society. Natural disasters such as floods, heavy rains, droughts or earthquake overwhelm poor households, destroying their ability to cope. The poor have limited choices, limited access to resources and few income generating opportunities.

1.3. Microfinance sector in Pakistan continue to suffer from natural calamities that not only threaten but affects lives and livelihood of its borrowers/ customers resultantly adverse impacts on institutional operational / financial sustainability and undermined social impacts.

2. Purpose & Objective of Climate Risk Management framework

2.1. Climate Risk Management framework is meant for understanding Climate Risk and designing methods to mitigate / reduce the wide spread impacts on FMFB operations and clients.

2.2. Identify, assess and monitor Climate Risks and enhance early warnings. Use knowledge, innovation and education / awareness to build culture of safety and resilience at business unit and client levels. Reduce underlying risk factors.

2.3. It's all about to create a resilience to absorb the shocks and to make climate Risk Management framework as part of regular management oversight and strategic planning.

2.4. Strengthen disaster preparedness for effective response. Framework explains possible mitigation strategies, roles & responsibilities at various levels of FMFB.

3. Key indicators of Climate Change Risk:

3.1. Climate change Risk stems from combination of natural & human activities. Possible causes are:

- Extreme Temperatures variations;
- Rapid melting of glaciers;
- Changing pattern of rains ,
- Sever and frequent Floods,
- Human / animal related epidemics,
- Earthquakes, land sliding / mudflows
- Extended dry spell leading towards droughts and large scale fires;

4. Climate Risk general impacts on FMFB ~ clients

Disaster hit vulnerable borrowers in the following ways:

S#	Impact	Remarks
1.	Chronic underdevelopment	Families suffer from chronic underdevelopment, high childhood malnutrition and may resort to migration.
2.	Non-Availability of essentials	Serious inadequacy of essentials for many days during and after disasters; supply shocks
3.	Rise in prices	Rise of prices of essential during/after disasters exacerbating food insecurity for poor.
4.	Loss / Damage of physical & productive assets	Increases in expenditures compounded by temporary lack of income generating alternatives and the loss or damage of physical and productive assets.
5.	Restricted Mobility	Restricted mobility for a number of days or even more depending on the severity.
6.	High charge by Local lenders	Dependence on local moneylenders who charge high interest rates.
7.	Depletion of resources	Depletion of water reserves, reduction/ elimination of crop yields and decimation of livestock.
8.	Illness	Illness and adverse dependency ratios in families.
9.	Scarcity of Shelter	Availability of few dry places for shelter. Living with their cattle and poultry under same roof.
10.	Scarcity of safe drinking water	Scarcity of safe drinking water and any sensible means of sanitation.
11.	Loss of crops / Life	Shifts in farming schedule of local farmers and consequently an increase in crop failure. Lack of seeds/fertilizers necessary at start of growing season due to poor delivery reliability Direct impacts on the productivity of households due to death of income-earning members.

5. Climate Risk impacts on FMFB ~ historic perspective

Rapid climate changes during 2010 – 2012 caused unprecedented and unexpected floods / rains. Climate Risk has adverse impact on loan portfolio of FMFB where default increased due to impairment of cash flow of borrowers.

During 3 years time around PKR 1.1b portfolios has been affected comprising more than 46 thousands clients. Below tables provides historic trends of Climate Risk due to floods / rains from 2010-2012:

Trends of affects

Flood/ Rains	Affected		% of total % GLP		Rescheduled		Un-rescheduled	
	Clients	Portfolio (Rs. M)	Clients	Portfolio (Rs. M)	Clients	Portfolio (Rs. M)	Clients	Portfolio (Rs. M)
2010	14,898	253.4	7.0%	7.7%	597	10.0	14,301	243.4
2011	25,206	690.4	18.0%	24.9%	519	18.3	24,687	672.1
2012	6,473	155.6	4.7%	4.8%	-	-	6,473	155.6
Total	**46,577**	**1,099**			**1,116**	**28.3**	**45,461**	**1,071**
%					**2.4%**	**2.6%**	**97.6%**	**97.4%**

Trends of recovery

As of January 31, 2013 Bank has been able to recover 69.4% while 5.4% is not yet due. Remaining portfolio is in different classification categories and charged to P & L over the period thus posing a sustainability and growth challenge for the Bank

Flood/ Rains	Affected		Recovery from rescheduled		Recovery from Un-rescheduled		Total Recovery		
	Clients	Portfolio (Rs. M)	Clients	Portfolio (Rs. M)	Clients	Portfolio (Rs. M)	Clients	Portfolio (Rs. M)	%
2010	14,898	253.4	433	7.7	12,411	215.1	12,844	222.7	87.8%
2011	25,206	690.4	178	6.7	16,769	452.4	16,947	459.1	66.5%
2012	6,473	155.6	-	-	3,375	80.7	3,375	80.7	51.9%
Total	**46,577**	**1,099**	**611**	**14.4**	**32,555**	**748.2**	**33,166**	**762.6**	**69.4%**
%			**54.7%**	**50.8%**	**71.6%**	**69.9%**			

Based on above historic trends of impacts on portfolio, Climate Risks also trigger other risks as well for the Bank that are often correlated & interdependent and have adverse multiplying affects:

S#	Risks	Impact
1.	Credit Risk	Disaster due to climate risk result in wide spread and significant deterioration in credit portfolio due to impaired cash flow of clients thus leading towards loan losses
2.	Liquidity Risk	Climate Risk poses liquidity threat in two ways i.e. one due to nonpayment of due loans on time which impacts realization of accrued income as well as huddle planned growth and second call on deposit / savings due to increased demand for unplanned migration / emergency restoration.
3.	Impaired earning / Growth Risk	Due to nonpayment of loans bank has to suspend accrued service charge and loss of fee income in case of repeat loans. Liquidity call further shrinks planned income on investment. Future planned growth ceases become stagnant or starts reverting back.

4.	Operational Risk	Disasters affect the efficiency, productivity and effectiveness of controls and trigger portfolio Fraud & Thefts. It also increases cost on account of high delinquency management. There is high probability that already existing issues of inefficiency, productivity and frauds easily hide under the umbrella of Climate Risk.
5.	Reputational Risk	Frauds, Improper assessments, inability to respond or delayed response particularly to the affected clientele may lead to loss of reputation
6.	Political Risk	Politicians may try to gain mileage from the crisis situation and make announcements and commitments that do not have sound footing and materialize such are announcement of loan waiver etc. lead towards large scale default even by good clients as well

6. Stages of Climate Risk mitigation Strategies

Climate Risk mitigation requires practical approaches / set of activities that are under active performance for Climate Risk mitigation and encompass pre- disaster, during disaster and post disaster. FMFB perceive & classify set of mitigants into any of the mitigation stage. It is fundamental that prevention is better than cure.

S#	Stages of Disaster	Risk Management Approach
1.	Pre-disaster mitigants	• Climate Risk Mapping of business units • Portfolio diversification / Management • Creating additional Provision reserve as buffer • Setting up a Contingency/Emergency/Disaster fund • Climate Education/Awareness initiatives • Possibility for Insurance • Savings for disaster
2.	During disaster activities	• Early warning • Coordinating with AKDN affiliated agencies
3.	Post disaster strategy	• Assessment process • Launch disaster related products • Rescheduling/Restructuring of loans

7. Deliverable & approaches of Possible Climate Risk Mitigants

7.1. Climate Risk Mapping of business Units

7.1.1. FMFB strives to map key Climate Risks that have or can impact the business units i.e. branches, point of link offices (PoLs) and sub-offices (SOs).

7.1.2. Key Climate Risks may be floods, heavy rains leading towards floods / disaster, drought, earthquake, crop yield / price deterioration or other external events that may adversely impact clients and portfolios.

7.1.3. Mapping is critical to set local / regional strategies & portfolio management as no one solution can be fit to all.

7.1.4. Mapping exercise will be update on half yearly basis by Operational Risk and dimensions of Climate Risk, trends and impacts will be improved over the period of time. Bank further develops historic data & expected future probability location wise of average, extreme values in key areas like rain falls, floods, temperatures, etc. and likely impact on clients and Bank.

7.1.5. A first cut mapping exercise of all business locations is enclosed as Annex- A

7.2. Portfolio diversification / Management

7.2.1. Climate Risk generally hit assets and portfolio. Portfolio concentration in any one product or sector severally impacts the clients and bank during Climate Risk hit. A conscious approach and planning for bad time during good days is always wise. During normal circumstances line managers and Senior Management hardly tempt to steer and manage portfolio that create resilience absorb shocks.

7.2.2. Diversification and building a mix based of portfolio at each location is a gradual process and generally disliked initially. Further some locations have inherent appetite to operate a level despite a good mix of portfolio. Portfolios over and above from local appetite create issues of adverse selection and many issues then hide under the umbrella of Climate Risk if triggered.

7.2.3. To start with FMFB need to set benchmarks and limits on annual basis considering overall appetite and growth at least in following areas:

- Overall max size of portfolio at each Branch / location and then regional level;
- Desired level of portfolio Mix by product / sector;
- Desired level of growth at each location by product / sector;
- Desired level of NPL (ideally by location and by product / sector);
- Desired level of W/off (ideally by location and by product / sector);

7.2.4. First exercise of portfolio benchmarking based on actual of 2012 and budget of 2013 and any desired level have been conceived.

7.3. Creating additional Provision reserve as buffer

7.3.1. Climate Risk may continue to occur despite all efforts of awareness, education, portfolio and risk mapping. All mitigants can reduce the impact of severity but cannot stop occurrence / happening. Each happening brings new dimensions and put intuitional sustainability at stake.

7.3.2. One of the mitigants to give resilience to sustainability is to create buffer through additional provisions each year and gradually building. This will save Bank to account for any additional reserve due to hit of Climate Risk.

7.3.3. Additional provision will remain in books and not subject to reversal unless felt necessary with approval of BoD

7.3.4. Level of additional provision should be adequate in the long run. Following are expected level of additional provision for next five years. Ideally starting from a base line and then increasing value by 25% each year.

S.No.	Year End	Level of Additional provision (Rs. Millions)	Incremental addition (Rs. Millions)
	2012	40	Baseline
1	2013	50	10
2	2014	62.5	12.5
3	2015	78.1	15.6
4	2016	97.7	19.6
5	2017	122	24.3

7.3.5. Additional provision should be addition to general provision where overall adequacy of provision will operate more than 100%.

7.3.6. Basis of additional provision may overall portfolio or location / product specific. Basis and rational may be worked out by management YoY basis and documented in financial accounts.

7.4. Setting up a Contingency/Emergency/Disaster fund

7.4.1. There may be three approaches that FMFB may focus gradually in the future:

- Sector level
- Institutional level and
- Client level

<u>Sector level</u>

7.4.2. Sector level there is already a risk mitigation fund at SBP where contributions have been made by institutions/ regulator. However, this fund has not been activated so far for the sector to mitigate any risk. There are active debate at PMN and SBP level and push from the practitioners to set ToRs and modalities to get benefit out of it.

7.4.3. Possible use from this mitigation fund may be passing benefit to affected clients in shape of:

- Arranging insurance covers for asset loss; or
- Some mechanism to offer special lending during Climate Risk disaster at discounted rate to clients and reimbursement of additional cost to institutions;

Institutional level

7.4.4. FMFB may raise contingency/ emergency / disaster fund by imposing additional disaster related fee etc. Additional fee may be linked with Climate Risk mapping exercise and could be location and product specific i.e. levied at those locations & products which more prone to Climate Risk. It may be true not passing on cost to those locations / clients which are less vulnerable to Climate Risk.

7.4.5. However to set some modalities at FMFB level it carries both pros and cons. Pros encompass the availability of pool of funds that may be used during disaster & after disaster for emergency response and afterward rehabilitation. Possible uses may be:

- Supply of emergency food, shelter and medical support;
- Support for rehabilitation for repair of houses;
- Support for revival of economic activities;
- Support for repayment of outstanding loans;

7.4.6. Cons are more diverse and may have following challenge for implementation:

- Pool money at local level may not be sufficient to carry out visible initiatives that may impact positively during Climate Risk disaster;
- Communication with communities / clients regarding benefits may create extra ordinary hopes and in case those are not met may have adverse impact on portfolio;
- Mechanisms to collect and pool also carry sensitively for operation in accounts;
- There will need for assessment system to be strengthened and identification of factors that set priorities for use of pooled funds;

7.4.7. However, such fund accounts may be opened each branch where authority to operate should rest with bank signatories should be Branch Manager with joint operations of Area Manager and Area credit Managers. Use of funds should be based on business case duly approved by Central Credit Committee (CCC). It should be current / saving account and no check book should be issued for the account. Account should titled "**Climate Risk disaster fund _____ Branch"**

7.4.8. Fee contribution should be determined from time to time and should be part of schedule of charges. Initially may be from Rs. 200/ to Rs.500/

Client Level

7.4.9. Clients may arrange and manage contingency/ emergency / disaster fund. It may be more practical for group based loans where some amounts may be set aside from the availed loan. However for individual clients some mechanism is difficult to set. Further such option can only be optional and can't be forced.

7.4.10. FMFB may just persuade clients and can't enter into client level management. Client level management, fund polling and account management carries Operational Risk of frauds by the authorized to operate. Due to asymmetric values, it may be difficult to set priorities of use at group level.

7.4.11. If group clients agree, a current / saving account should be opened titled "**Climate Risk disaster fund _____ Group".** Account operations may be joint by Branch Manager along with two authorized of the group.

7.4.12. On average group borrowers should contribute from 5 to 10% of the loan availed during each cycle.

7.4.13. Such account may be closed at will of group or decease of any member and amount distributed as per contributed share to members / heirs of deceased.

7.5. Climate Education/Awareness initiatives

7.5.1. Climate education and awareness paramount to understated to reduce adverse impacts of climatic changes & disaster. Most of the disasters that adversely hit Bank and clients are due to ignorance. Proper education and awareness creates culture of safety and resilience by developing preparedness for climate change.

7.5.2. FMFB strives to create Climate Risk education and awareness at business unit level and client level.

<u>Business Unit level education and awareness</u>

7.5.3. Business unit level education and awareness initiatives may includes:

- Creating Sensitivity for Climate Risk and focus on portfolio management & diversity.
- Sharing Key trends of climate changes and possible impacts on portfolio and clients and mitigants;
- Updated trainings & awareness on Business Continuity Management (BCM) Policy & procedures;
- Inculcate overall Climate Risk resilient culture of business unit;

7.5.4. Risk Management will coordinate and to provide periodic (quarterly) reminders and updates;

<u>Client Level Education and Awareness</u>

7.5.5. Creating client resilience against Climate Risks is most effective at gross root level. Although acting on guidelines and adopting to change can't be forced by Bank; yet it may have gradual change process that changes the mindset of the clients over the period.

7.5.6. Possible education & awareness intervention may be:

- Provide some literature to clients , preferable in national / local languages, on Climate change and risks and their impacts and possible precautionary measures;
- A dedicated dialog with clients / group at the time of disbursement along discussing other covenants;
- Designing and displaying posters on Climate Risk awareness at entrance / notice board / client meeting areas;
- Arranging large scale branch level awareness annual / half year sessions;
- Sending through SMS any pertinent information on Climate Risk;

7.5.7. Possible areas of awareness may include:

- Creating sense amongst clients to understand Climate changes and risk and possible impact on their earnings, families, livelihood and assets;
- Educating clients to adopt multiple earning sources;
- Educating clients to adopt multiple crops, using climate change / pest resistant seeds;
- Crating awareness to use crops / seeds that need less water in drought prone areas;
- Educating clients to protecting Livestock from seasonal diseases and disaster;
- Educating how to effectively protecting houses/ shelters;
- Educating clients to save for disaster;

7.5.8. Possible material will be provided by business / Risk Management and coordinated by product development and Research.

7.6. Possibility for Insurance

7.6.1. Different Insurance coverage are available that mitigate risk of bank and clients. For example borrowers credit life / disability coverage.

7.6.2. However in most of cases no such Climate Risk related viable options are available that cater the need for clients and bank. Some insurance companies have started some index based crop insurance but yet at infancy stage.

7.6.3. Bank will continue to explore options that do not portray negative message and protect the client and the bank as well.

7.6.4. Current options available, in most of the cases, have limitation on claim side while carry cost that is challenge in terms of affordability to client. For point in time no insurance company provide blanket coverage on a blocked amount.

7.6.5. Current insurance offering and risk assessment enclosed as **annex – C**

7.7. Early Warnings

7.7.1. Exploring possibilities for early warnings to business units and onward to clients for any possible adverse change in climate.

7.7.2. Possible early warnings to business units & clients may be:

- Any expected above normal / extreme rain fall / flood / temperature change and to adopt portfolio disbursement;
- Displaying key climate related warnings at notice boards;
- Discussing key changes of climate risk with branch visiting clients;
- Discussing key changes in the field / group meetings;

7.7.3. Key climate changes and advisory in shape of bulletin on fortnightly /monthly / quarterly by Operational Risk depending upon the climate change cycles. Business & Risk Management will coordinate and communicate in case of disbursement to defer for interim period.

7.8. Climate Disaster Products (Savings & Loans)

7.8.1. FMFB strives to develop special saving and loan products over the period to meet the client needs under Climate Risk disaster.

Saving Products:

7.8.2. Special saving products designed for borrowers that inculcate saving culture for disaster and provide incentive to clients /better returns and flexibility.
7.8.3. Some existing product may be further tailored.
7.8.4. PMR will work out key feature disaster saving product by Jun 13.

Loan Products:

7.8.5. Borrowers' especially need additional loans / top up loans under crises situation. Un-accessibility to credit at time of dire need multiply their hardship and they are compelled to go back to local money lenders who charge very high rates. Such borrowers never come out of viscous cycle of borrowing.
7.8.6. Special lending product(s) will be developed. Parameters will be set to offer disaster loan to very genuine clients and alongwith monitoring mechanism to track performance over the time.
7.8.7. A risk framework will also be developed to set geographical, per client and max limits under such products. Lesson learnt over the period may help to continue product refinement/ enhancement.
7.8.8. First loan product to be developed and completed by Jul 2013 by PMR in coordination of Risk Management and business.

7.9. Strengthen Climate disaster Assessment Process

7.9.1. Climate disaster assessment is twofold. One is proactive and second is reactive. Proactive assessment is to assess the client's vulnerabilities and resilience against Climate Risks at the time of loan appraisal while reactive assessment is during & post disaster to assess the actual losses.

Proactive Assessment:

7.9.2. Bank may develop Climate Risk score card of each client based on quantitative & qualitative factors and developing risk zones for each clients. It will help out to business unit / client to develop local level strategy for mitigations at the outset.
7.9.3. Based on the Climate Risk score card, total portfolio of a business unit can be reviewed in terms of overall assessment Climate Risk.
7.9.4. Key factors will be searched over the period and making changes in assessment process and developing system changes to capture the outcome of Climate Risk assessment.

7.9.5. It is medium to long term project whereby adopting a proactive approach to identify & assess climate Risk at time of loan appraisal and tagging assessment into the system.

7.9.6. Periodic review & reporting of all clients may give good insight of branch / business unit / regional / bank level assessment of possible impacts of Climate Risk and adopting early mitigation strategies.

7.9.7. Risk Management will take lead to develop score card while coordinating with Business / IT and PMR for implementation.

7.9.8. Proactive assessment Process will be started during 4th Q 2013 and completing over the period as & when clients are repeated.

Reactive Assessment:

7.9.9. Reactive assessment includes assessment of damages / losses and close monitoring of the situation during disaster and after disaster. The scope generally encompasses to get the maximum information regarding spread and intensity of disaster and possible impacts on clients and portfolio.

7.9.10. Assessment will capture possible losses incurred in terms of life, crop / Livestock / business loss, shelter, health etc. Assessment of possible additional interventions and recovery chance and impact on portfolio.

7.9.11. Initial assessment to be carried by business and counter assessment by Risk Management to avoid any skip or incorrect addition. It is learnt from experience that some affected clients could not be identified initially while their impact continue on books later on.

7.9.12. Bank will further refine the assessment process already in place by Jun 2013. Bank continues to review the performance against assessment and adopting additional measures as needed based on the assessment. Additional measures may include: review disbursement trends and future course, working un-expected loss and impact on capital and strategy to mitigate, special remedial measures etc.

7.10. Rescheduling/Restructuring of loans

7.10.1. Rescheduling & restructuring is a strong option to exercise post Climate disaster that provide benefit both to Bank and clients. It provides a breathing time to clients to revive their economic activities and smoothing cash flow to enable them sustain and repay the loan.

7.10.2. Rescheduling & restructuring offer different option and bank already has rescheduling & restructuring policy which even has been revised.

7.10.3. Rescheduling & restructuring provides options to bank to gain reasonable time and avoiding taking adverse hit under disaster situation.

7.10.4. Bank tracks performance of rescheduling & restructuring over the period to review performance and taking further remedial measures and tweaking rescheduling & restructuring schemes from time to time.

7.11. Coordinating with AKDN affiliated agencies

7.11.1. As Climate Risk mitigation, FMFB works closely with AKDN affiliated agencies who specialize in Climate Risk training and awareness. Broad purpose of this coordination is:

- Integrate mitigation & preventive measures for climate risk reduction,
- Seeking latest material / techniques on training & awareness of clients;
- Conduct & participate during & post disaster relief and recovery, reconstruction and rehabilitation activities;