NFRP livelihood contributing to IBFI AFFORDABILITY

A study report

Flood Resilience Alliance

Practical ACTION

Does livelihood diversification build flood resilience and support affordability for FLOOD INSURANCE?

Background

The Zurich Flood Resilience Alliance focuses on building flood resilience. Flood prevention is cost-effective, but nearly 87 per cent of disaster-related aid spending goes into emergency response, reconstruction, and rehabilitation, and only 13 per cent towards reducing and managing risks before they become disasters. (IIASA, 2023)

The Flood Resilience Measurement for Communities (FRMC) comprises two parts: the Alliance's framework for measuring community flood resilience, and an associated tool for implementing the framework in practice.

The framework also called the 5C-4R framework, combines 44 indicators – so-called sources of resilience, aligned to five complementary 'capitals' (5C) as well as four properties derived from resilient system-thinking (4R), that can help people on their development path and provide capacity to withstand and respond to shocks. (IIASA, 2023)

The 5Cs comprise human, social, physical, financial, and natural capital. The 5Cs provide a greater richness of data (community resilience strength and weakness) about a community's sources of resilience than an individual metric such as average income. (IIASA, 2023)

Each capital group contains a set of generic and discrete sources of resilience (which can be thought of as sub-indicators). Across the 5Cs there are 44 sources of resilience, each specifically defined. Sources of resilience are grouped under the four systems of resilience: robustness (ability to withstand a shock), redundancy (functional diversity), resourcefulness (ability to mobilise when threatened), and rapidity (ability to contain losses and recover on time). (IIASA, 2023)

This 'systems thinking' approach considers the assets, interactions, and interconnections at the community level, and provides consistency when it comes to identifying and testing sources of resilience. (IIASA, 2023) In Nepal, ZFRA is testing FRMC in 25 communities, through Nepal Flood Resilience Project (NFRP), where Practical Action has worked.

Nepal Flood Resilience Project-(NFRP) Livelihood Diversification Training

Based on FRMC result-led interventions to improve community flood resilience, NFRP supported community members of 25 communities of Bardiya and Kailali through various training. The training focused on different livelihood interventions that were selected based on their capacity to build resilience to floods. The implementation of new/improved livelihood skills acquired from the training has helped the communities improve their financial capital and build their resilience to flood.

These livelihood skills were identified by the communities through FRMC interventions and are expected to improve financial capital, and saving habits and hence aid timely recovery. The trainees are selected based on their socio-economic background, commitment to pursue livelihood post-training, and the recommendation from respective Community Disaster Management Committees (CDMCs). The trainings are targeted at poor and marginalised households, who are impacted by floods and are committed to adopting new livelihood skills and uplifting their family's socioeconomic standards. In total, 507 trainees received trainings, in both on-farm and off-farm livelihood skills. These trainings are based on standard training course modules and include both theoretical and practical teaching methods.

The training skills are broadly categorised into off-farm and on-farm-based livelihood skills. The on-farm (Agri based livelihood training and input support) includes banana farming, mushroom farming, tunnel farming, riverbed farming and vegetable farming. The off-farm (training and input support) includes doll making and embroidery, fast food making, house wiring, sewing/tailoring, and masonry trainings. The trainings have started on different dates and participants have also started commercial implementation on different dates, some have been implementing their livelihood option for more than four years, while some have just received training and started implementation. In this study, the tunnel farming trainees and vegetable cultivation trainees have also been categorised together as their livelihood practice is the same, which is vegetable cultivation.

Index Based Flood Insurance (IBFI) summary

Index Based Flood Insurance (IBFI) was introduced in Lower Karnali as an ex-ante action to transfer risk by helping people in containing losses and recover on time leveraging the financial system to enhance resilience (robustness- as to how reliable the payout is, rapidity- as to how fast the payout arrives, resourcefulness- what they use the payout for). Practical Action, Global Parametrics, Shikhar Insurance Company and Stonestep developed an IBFI product for lower Karnali, receiving approval from Nepal Insurance Authority on 14th July 2022, for the pilot. In the facilitation of the project partners, Shikhar Insurance Company rolled out the product in the monsoon of 2022.

Cooperatives act as the aggregator holding the group policy on behalf of individual farmers who choose to enrol on the scheme. 12 cooperatives held 27 group policies protecting 935 farmers in 2022. About 198 bighas (134 Ha) of land with paddy rice cultivation was insured with a sum insured of approximately NPR 14,254,000. In September 2022, the flood level triggered a 10% payout (10.80-11.80m). The flood hit the second trigger for which payout to the farmer was made, which was 25% of the insured amount which was approximately NPR 3,563,500. The entitled amount is against the paddy production loss near 25% loss.

Scope and Methodology

This NFRP livelihood diversification and IBFI affordability survey exclusively look at if/how different livelihood skill trainees have been able to use additional income generated through the implementation of livelihood skill trainings provided by Nepal Flood Resilience Project (NFRP) to purchase flood risk transfer products- in particular the Index Based Flood Insurance (IBFI).

So far 507 individuals have received NFRP livelihood trainings, while 80 individuals have received the training, implemented it, and purchased the IBFI policy. The list of men and women trainees was segregated purposively, based on gender, and a simple random sampling method was applied irrespective of the municipalities they belong to. The total sample size thus received was 31.

An individual paper-based questionnaire survey was conducted, which included both qualitative and quantitative questions (see annex). The results are presented below.

KEY FINDINGS/ HIGHLIGHTS

Demography

The total sample of 31 respondents, consisted of 64.5% female respondents. The sample was distributed randomly across 5 municipalities with a majority (48.3%) of respondents from Tikapur Municipality. The average landholding size is 16 kathas (338.63 sq. meters). The average family size is 7 people.

The 31 households from this sample paid a total of NPR 41,076 as insurance premiums for paddy while most of them paid from around NPR 550 to 2000. Most of these farmers have insured less than or equal to 5 kathas (1,693.15 sq. meters), as this was the piloting of Index Based Flood Insurance programme, and they were hesitant about its outcome. They can go for more once they have understood the product after the pilot.

Livelihood diversification skill

In total 9 types of livelihood diversification skills/ trainings were reflected in the sample, the majority (38.7%) were on-farm vegetable cultivation skills. The respondents received their trainings at different times, a majority (32.25%) of the sample had received the training three years prior.

A majority (90.32%) of the respondents have also received additional support along with the livelihood skill training, which included receipt of equipment like a plastic tunnel, livestock training, young goats (kid) support and training, seeds, medicines for livestock, banana seedlings, plastic sheets for mushroom farming, electric water pumps, technical assistance, and additional training such as lead farmer training, pig farming training, tunnel farming training. Many 'on-farm based' livelihood skill trainees also received additional training on business entrepreneurship, market access, and technical assistance. Some "off-farm based" livelihood skill trainees received sewing machines, masonry-related equipment, etc. to start their businesses.

Many trainees received these kinds of material support from the NFRP. Some also received additional support from the agriculture extension division in municipalities, and other development organisations, through various projects, and the Rani Jamara irrigation programme. The livelihood diversification component of NFRP has hence been successful in terms of building the capacities of trainees in terms of accessing new opportunities.

96.77% of the participants shared that the knowledge from the livelihood diversification training has been beneficial for them, and 90% have already implemented their learning. Many of the trainees (70.96%) started implementing their livelihood skills immediately after the training.

Most of the respondents have adopted the livelihood skill for a maximum of 36 months, and two have just started. On average, the respondents have implemented the skill for 28 months.

When asked, if the livelihood skill has made them more resilient, 83% of the respondents shared that they feel more resilient. Through the implementation of livelihood skills, mostly, they are now more able to access improved healthcare services, their food security has improved, and they can send their children to better schools. Similarly, many respondents have shared they don't have to use negative coping mechanism post floods such as: selling their assets, seeking loans at higher interest, migrating to earn money, etc. They are more able to cope with flood losses after implementing their livelihood skills, and some are also able to add more physical assets. Some respondents also shared that their reputation in the community has improved, and they can meet additional expenses and participate in cultural activities such as festival celebrations more easily now.

After implementing the livelihood skill, the majority (68%) of the respondents save about NPR 100,000 annually, while 22% save NPR 100,000-200,000 annually. Few (9.6%) reported that they saved above NPR 200,000 annually.

77% of the respondents have plans to expand their business in the future, while 41% have already received additional support from the programme as well as from external sources (other organisations, local governments, various programmes) for the expansion. These supports include- material support like an additional tunnel, electric water pump, more seedlings, chemical inputs, financial support – grant money, as well as additional training and entrepreneur training to promote bigger business expansion ideas.

Motivation for IBFI policy purchase

Almost all the respondents purchased the IBFI policy owing to the flood risk the communities faced annually. Few also reported that the parametric-based scientific method motivated them to trust and purchase this product. A majority (77%) credit the livelihood diversification skill training of the programme helped them in earning additional income - through which they were able to purchase the policy. Most of the farmers have insured less than 5 kathas (1,693.15 sq. meters) of their total land. They have paid their premium amount themselves - except for communities of Shishir cooperative from Geruwa. Shishir cooperative motivated their farmers by providing NPR 252 support in the premium amount for a katha (338.63 sq. meters) unit of land.

The majority of farmers are willing to continue their livelihood option and 100% of the farmers are willing to purchase the IBFI policy next year. The farmers also reported that many community members, who didn't purchase the policy this year, have also shown interest in enrolling in the IBFI program- owing to the timely and hassle-free payout of the IBFI model.

A majority (67%) of the farmers understand the risks associated with their livelihood options. All the farmers who could foresee risks also had mitigation measures planned to reduce these risks and continue their livelihood options. This also shows that the FRMC interventions have improved the communities' understanding of risks related to flood and climate uncertainties and helped them understand the importance of timely mitigation and risk reduction to build their resilience capacities.

Recovery support from livelihood diversification

A majority of the respondents (67%) shared that the additional income has helped them recover on time from flood events as they are able to invest in agriculture inputs, use their savings to cope with floods and recover promptly, afford good, nutritious food, medicines and afford energy for cooking purposes post flood. They are also able to access better health services and pursue a better education for their family members as well.

Livelihood diversification and resilience

Out of the 31 households surveyed, 28 paid insurance premiums of around NPR 2,000. 21 households saved up to NPR 100,000 per year thanks to their new skills, and 10 households saved even more. This indicates that the new skills on diversified livelihood can support farmers to access insurance to protect them from risks. Additionally, it has helped them bounce back from flood loss timely and continue their lives and livelihoods.

CONCLUSION

In conclusion, innovative options such as IBFI and livelihood diversification have decreased negative coping practices, improving their ability to cope with floods and recover on time. Initiatives such as these if scaled up could supplement the resilience in the communities and can help strengthen financial capital, economic capacities, and systems of resilience as well as flood risk management strategies (reserves and savings generated for moderate flood risks and access insurance for extreme flood risks). The strengthened financial capital has also helped communities adopt and invest in other mechanisms that can transfer their flood risk regarding extreme climate events.

The livelihood diversification training and implementation support has helped the program achieve its broader objectives. This has also increased investment in risk transfer mechanisms, especially at the household level through additional income, increased savings, and investment in risk transfer mechanisms. It has helped the communities to be a step closer to ZFRA's vision i.e., floods have no negative impact on people's and business's ability to thrive.

KEY LEARNINGS

1 Livelihood diversification strengthens skill sets (human capital) to become a last-mile entrepreneur to generate more income (strengthens financial capital) and the ability to contain loss from low to moderate flood risks. Strengthened financial capabilities reduce the need for households to take out a loan, migrate for work or take a child out of school to get back on their feet.

2 Affording risk-based premiums remains a major challenge for vulnerable populations. Measures to increase the affordability of products are paramount to the success of insurance schemes. To make insurance affordable, the product can be partly – or fully – subsidised by governments or other donors. In the absence of government subsidy, Livelihood diversification can help the poor to access insurance products they trust like Index-based flood insurance.

3 Livelihood diversification can be a key in designing climate and disaster risk insurance products as it increased the probability of the most marginalised accessing those products and ensure no one is left behind.

ANNEX Detailed results

SECTION A Demographic questions

A.1 Gender of respondents

Row Labels	Count
Female	20
Male	11
Grand Total	**31**

A.2 Municipality Distribution of sample

Municipality	Count
Geruwa	8
Janaki	2
Madhuwan	1
Rajapur	5
Tikapur	15
Grand Total	**31**

A.3 Landholding size

Average land holding size- 16 kathas (5,418 sq. meters)

Landholding size (kathas)	Count
<10	14
>10	17
Grand Total	**31**

A.4 Family size

Average family size = 7 individuals

A.5 Insurance amount paid

In 25 communities, where Practical Action is implementing the NFRP and IBFI, a total of 935 farmers have insured a total of 3961 Kathas of land. The total premium hence paid is NPR 14,260,140.

In this survey, out of 31 farmers surveyed, the total kathas covered is 163 Kathas (5.5 hectares), while the total land ownership for 31 farmers is 58 Kathas (17.2 hectares). 31 farmers surveyed have thus insured 32% of their total land. 31 farmers, have in total paid a premium of 41,706 (which is 7% of the sum insured) and their total risk coverage is worth NPR 586,800 (163 kathas- 100%).

The 2022 flood (s) height triggered the 25% loss of paddy rice crop and the payout received by 31 farmers was NPR 146,700 (25% of the sum insured).

Range of insurance premium paid by each household

Range of insurance paid (Rs)	Count
0-1000	14
1001-2000	14
3001-4000	2
4000+	1
Grand Total	**31**

The majority of the farmers surveyed have paid insurance premium below NPR 2,000.

SECTION B
Livelihood Option

B.1 Livelihood skill enrolment

Name of livelihood skill	Count
Banana Farming	2
Commercial mushroom farming	7
Fast Food	2
House Wiring	1
Livestock	1
Masonry	1
Riverbed farming	3
Sewing and embroidery	2
Vegetable cultivation	12
Grand Total	**31**

B.2 No. of years since training was received

No. of years since training was received	Count
1	8
2	8
3 years and more	15
Grand Total	**31**

The majority of the farmers received training 3 years before the study period and had a long opportunity to implement it.

B.3 External Support received apart from training

Have you received any external support apart from training?	Count
No	3
Yes	28
Grand Total	**31**

Note: Only support received from other sources apart from NFRP have been listed.

List of external support received (qualitative list)

On-farm livelihoods	Support provided
Banana Farming	Banana seedlings
Commercial mushroom farming	Mushroom farming input support
Livestock	New animals (baby goat), medicines for livestock
Riverbed farming	Vegetable seeds
Sewing and embroidery	Sewing machine
Vegetable cultivation	Tunnel construction materials support
Off-farm livelihoods	**Support provided**
Fast Food	NA
House Wiring	NA
Masonry	Plump bob and equipment support

B.4 Did you find knowledge/ skill useful?

Has knowledge and skill from training proven to be helpful to you?	Count
No	1*
Yes	30

** the interviewee has recently received training and hasn't started their skill implementation*

B.5 Implementation of livelihood diversification skill

Have you used skills received in livelihood diversification training?	Count
No	2*
Yes	29

*

B.6 Time of adoption of new/ improved livelihood skill

No. of years since adoption of new/ improved livelihoodw diversification skills?	Count
0	1*
1	8
2	6
3	10
more than 3 years	6
Grand Total	**31**

**Not adopted yet*

B.7 Additional income generation

Additional income generation from new/ improved livelihood skill	Count
Hasn't implemented yet	1*
No	4
Yes	26
Grand Total	**31**

**One interviewee hasn't implemented, as the training was recently provided.*

B.8 New/ improved livelihood skill contribution in household flood resilience

Have you felt that new/ improved livelihood skill has made you more flood resilient?	Count
NA	1*
No	4**
Yes	26

** Recent trainee*
*** We didn't delve into detail- but it could either be that they didn't understand the resilience concept, or it hasn't been long since implementation.*

B.9 How has it made you more resilient

Answers
Improved food security
Able to provide improved health access for family members
Able to send their children to good schools
Not forced to migrate outside for work after floods
Avoided negative coping mechanism such as being forced to sell assets, forced to seek loans etc
Ability to cope with flood induced losses due to additional income
Able to add assets
Improved reputation in community
Easy to celebrate festivals
Meet additional expenses (other)

The results show that the livelihood diversification skills have helped households earn additional income, which they have been able to invest in areas such as increasing food security, able to access better healthcare, and better education. Similarly, they don't feel the need to migrate outside post floods to cope with the loss, nor take loans, or sell assets to cope with the damage caused by the flood. They can add new assets and reported that their social reputation has also increased in their community. It is now easier for them to celebrate festivals and meet any other expenses that may incur. Hence, they feel that the additional income has made their household more resilient.

B.10 Annual savings from livelihood skills

Range of annual saving (Rs)	Count
0-100000	20
100001-200000	7
200001-300000	2
400000+	1
One person is yet to implement	1
Grand Total	**31**

**One person is yet to implement*
The majority of respondents have been able to save NPR 100,000 from implementing the new livelihood skills.

B.11 Plans for business expansion

Plans to expand business	Count
No	6
Not Available	1*
Yes	24
Grand Total	**31**

**One person is yet to implement.*

B.12 Received any external support for expansion

Additional opportunities for expansion	Count
No	17
Not Available	1*
Yes	13
Grand Total	**31**

One person is yet to implement.

List of additional support received (qualitative)

On farm additional support	Off farm additional support
additional tunnel	entrepreneurship training
electric water pump	
irrigation grant	
Chemical inputs for agriculture	
additional training and technical support	

SECTION C
IBFI

C.1 Motivation for IBFI policy purchase

Motivation to purchase IBFI?	Count
frequent floods	28
frequent floods, asset, and crop protection	1
frequent floods, scientific index-based method	1
new scientific method	1
Grand Total	**31**

All the farmers have shared that frequent flood damages to the paddy are the major reason behind their purchase of the IBFI policy. Besides, their understanding that IBFI is a new scientific method that provides crop and asset protection, especially considering the unseasonal October floods that they have been facing, is an additional motivation.

C.2 Has livelihood intervention helped purchase IBFI

Additional income support for IBFI purchase	Count
NA	1*
No	6
Yes	24
Grand Total	31

** hasn't implemented skill yet.*

77% of respondents have shared that the additional income from livelihood diversification has helped them purchase and afford the IBFI.

C.3 How many kathas of land have you insured?

Kathas of land insured	Count
<5	28
>5	3
Grand Total	31

Maximum farmers have insured less than 5 kathas (1,693.15 sq. meters), as this was the strategy cooperatives took due to limited time for IBFI enrolment post government authorisation and monsoon onset.

C.4 Payment of IBFI Premium

How did you pay for IBFI premium?	Count
paid myself	24
received addition support from cooperative	7*
Grand Total	**31**

**Shishir Cooperative paid Rs 252 for its members as a motivational support.*

C.5 Willingness to continue livelihood option

Willingness to continue livelihood option	Count
No	3
Yes	27
NA	1*
Grand Total	**31**

**not implemented yet*

C.6 Willingness to purchase IBFI

100% of the respondents are willing to continue purchasing IBFI.

C.7 Do you foresee any risks to your livelihood option

Do you foresee any risk in your livelihood option?	Count
No	10
Yes	21
Grand Total	**31**

If you foresee risks, what could be the mitigation options to minimise and reduce risk to your livelihood?

Risks to livelihood	Mitigation option suggested by farmers
Delay in production	Increased saving in groups to deal with delayed payment
Livestock disease and mortality	Unseasonal vegetable cultivation
Flood	Saving and Preparedness
Increase pest attack	Use of pesticides
Cold wave	Saving and preparedness
Delay in receipt of payment	Increased saving in groups to deal with delayed payment

C.8 Livelihood option and support in recovery

Do you think income generated from your new/ improved livelihood option, has helped you recover from floods in any way?	Count
No	10
Yes	21

Out of 21 people who said they understood how livelihood interventions help in timely recovery, 100% suggested how additional income would help them recover, broadly, in the following ways:

Timely recovery

- able to purchase agriculture input
- able to use savings when needed in post floods
- able to buy basic needs such as food, medicines and afford energy
- able to access better health services and education

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