Co-design process of a flood forecast and early warning system

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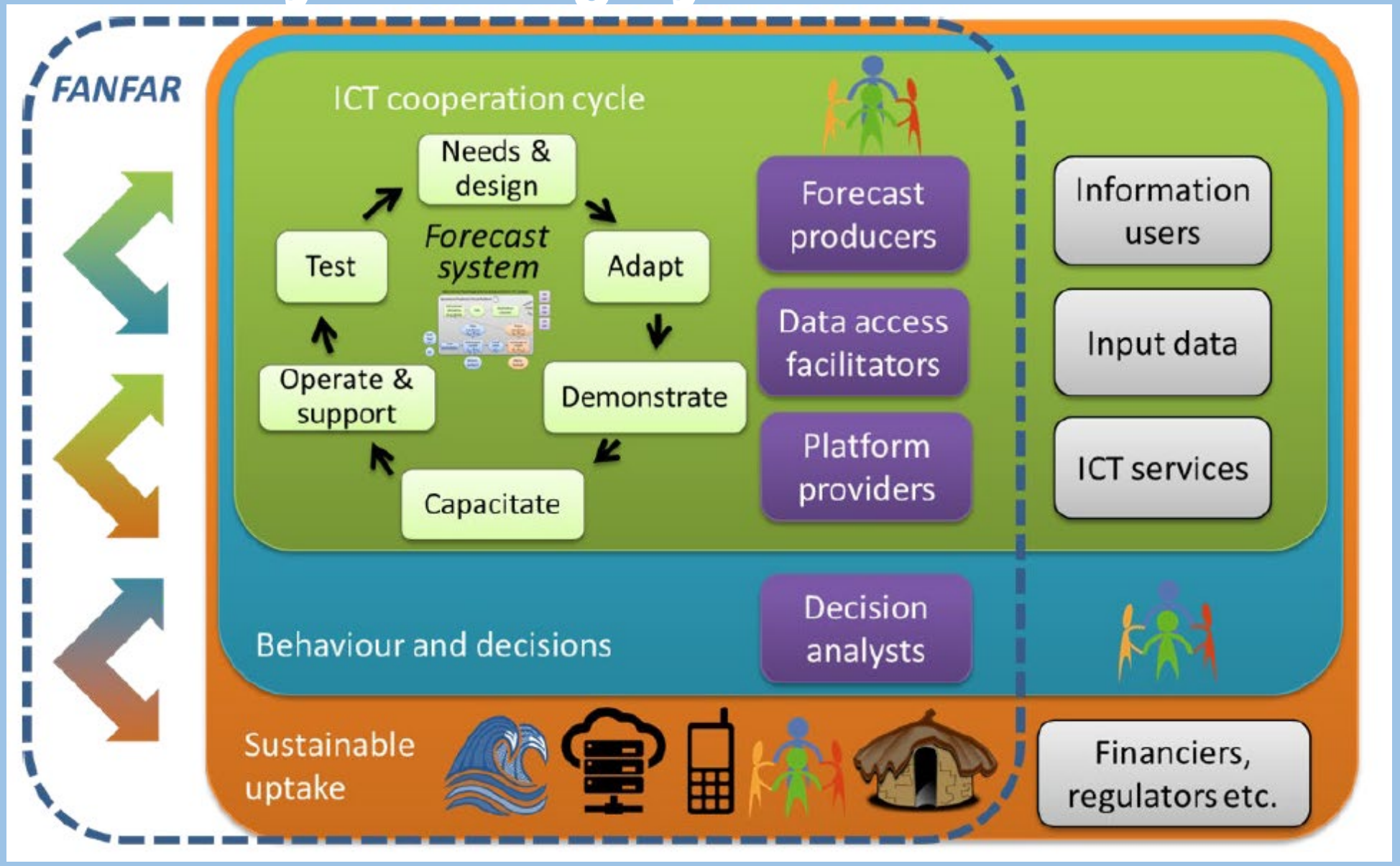
Co-design process of a flood forecast and early warning system



Top left: the ICT cooperation cycle, which is based on co-development in four co-design workshops in West Africa. Most important co-design stakeholders: representatives from hydrological services and emergency services from 17 countries in West Africa

Source: Lienert, J., Andersson, J., Hofmann, D., Silva Pinto, F., & Kuller, M. (2020). *Report on the co-design workshops in FANFAR to create a flood forecast and alert system for West Africa*. Eawag and FANFAR Consortium. Dübendorf, Switzerland. Available at: https://fanfar.eu/resources/.

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Co-development of a flood forecast and warning system in West Africa

Interventions

MCDA

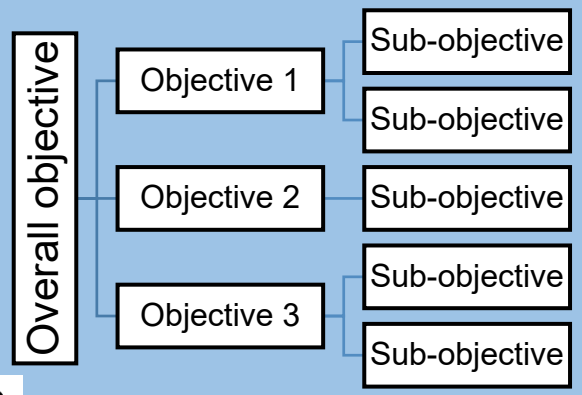
Objectives Ranking Survey

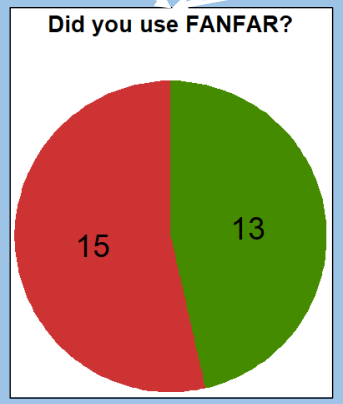
System Feedback Survey

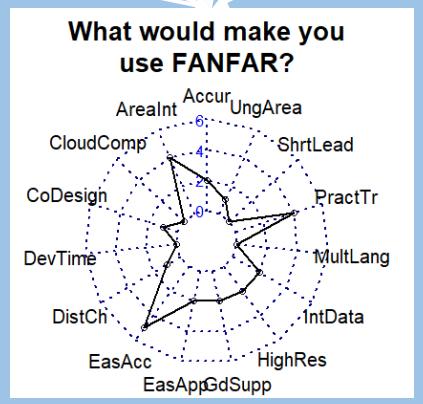
Experience Survey

Workshop 1 → **Rainy season** → **Workshop 2** → **Rainy season** → **Workshop 3** → **Rainy season**

Results







Scan me!

eawag aquatic research

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Co-design workshop plenary session

Source: Lienert, J., Andersson, J., Hofmann, D., Silva Pinto, F., & Kuller, M. (2020). *Report on the co-design workshops in FANFAR to create a flood forecast and alert system for West Africa.* Eawag and FANFAR Consortium. Dübendorf, Switzerland. Available at: https://fanfar.eu/resources/.

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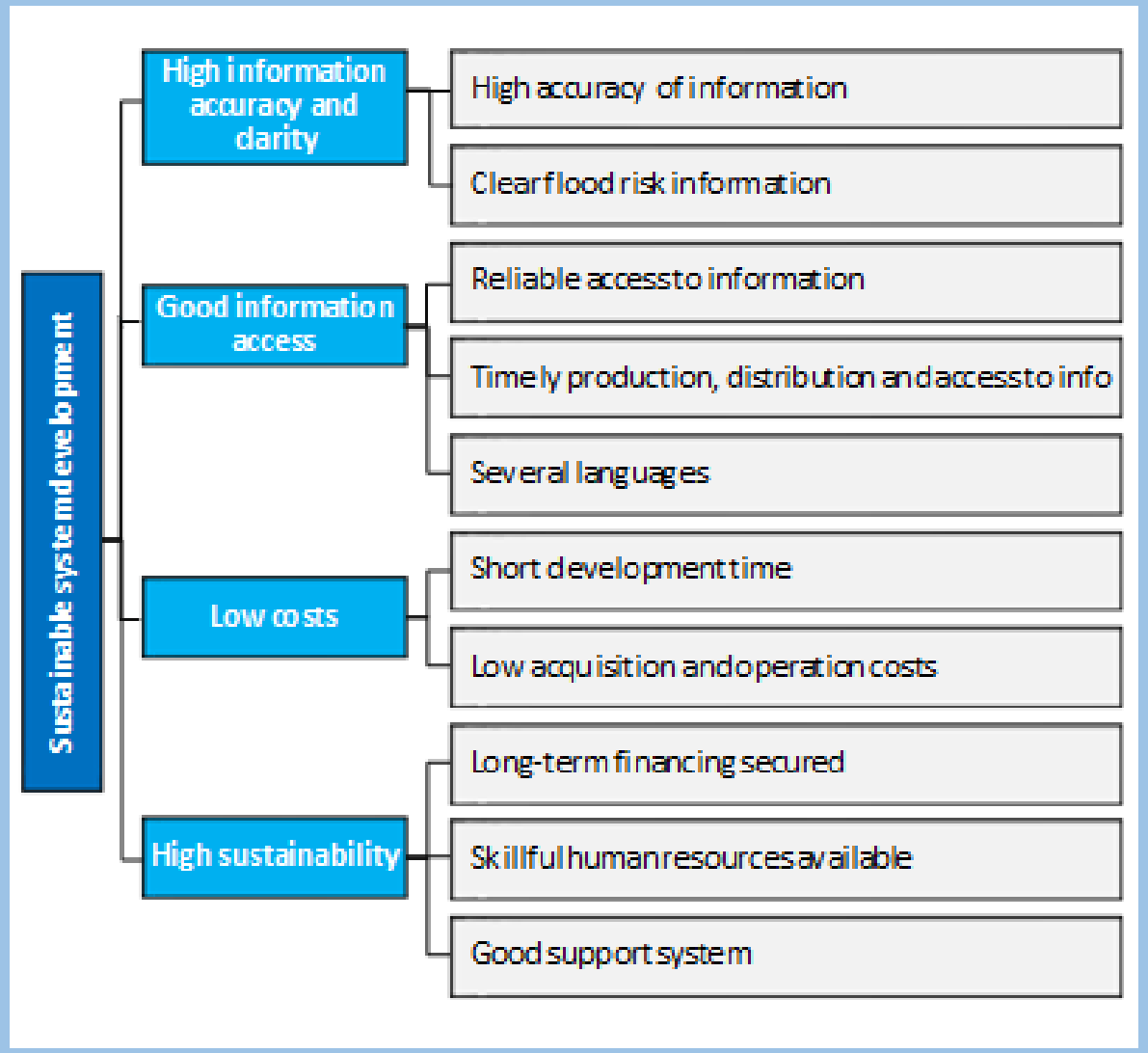
Objectives hierarchy for FEWS development resulting from MCDA intervention

Every workshop these ten objectives were ranked by the participating stakeholders from West Africa



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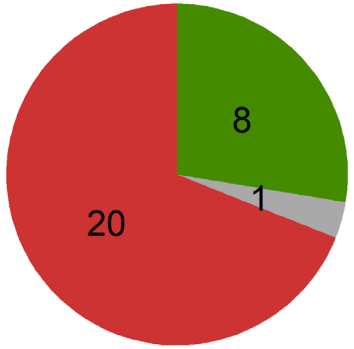
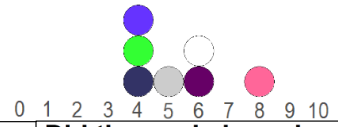
Results from experience survey workshop 2

FANFAR user experiences

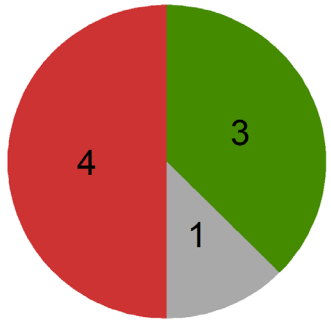
Did you use FANFAR?



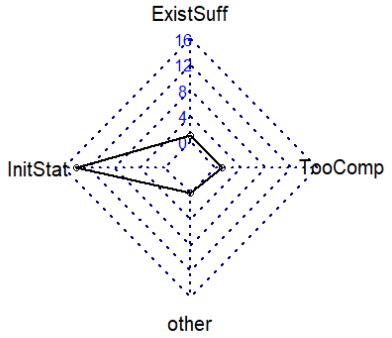
How satisfied are you with your experience?



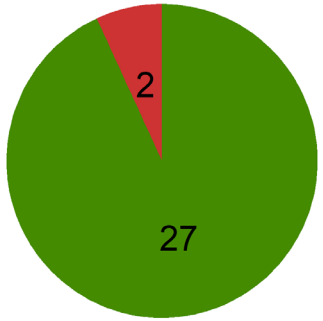
Did FANFAR change the way you manage floods?



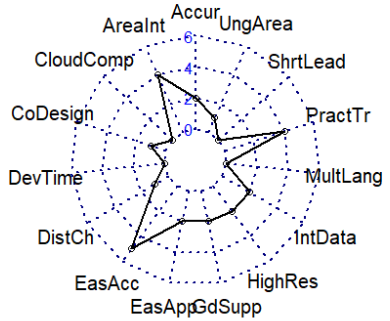
Why did you not use FANFAR?



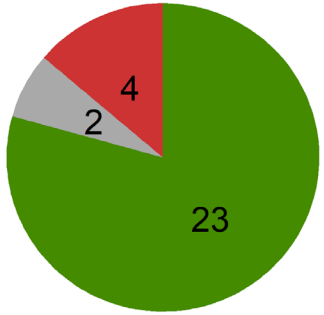
Are you planning to use FANFAR in the near future?



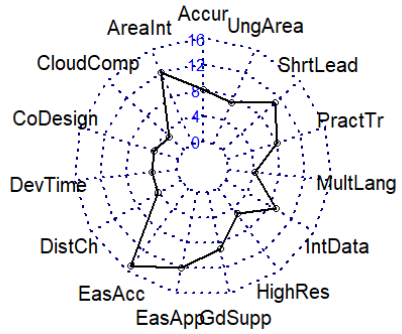
What would make you use FANFAR?



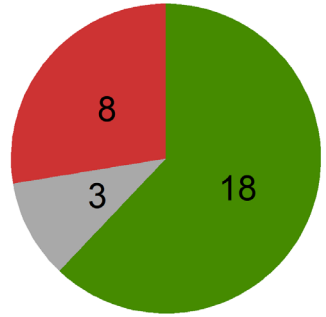
Did the workshop change your willingness to use FANFAR?



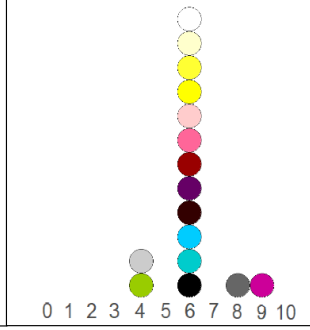
What made your willingness to use FANFAR change?



Are you currently using any other FEWS?



How much value does FANFAR add compared to other FEWS?



Please zoom in for details

Legend:

- *Pie charts* – Green: Yes, Red: No, Grey: N/A.
- *Radar charts* – Numbered axis: frequency (number of participants providing this answer). **TooComp:** Too complicated, **InitStat:** Initial state, **ExistSuff:** Existing fews suffice, **Accur:** Accuracy, **UngArea:** Ungaged areas covered, **ShrtLead:** Short lead time, **PractTr:** Practical training available, **MultLang:** Multiple languages, **IntData:** Integration of local observations and satellite data, **HighRes:** High spatial and temporal resolution, **GdSupp:** Good support system, **EasApp:** Info is easy to apply, **EasAcc:** Forecasts easy to access, **DistCh:** Several distribution channels, **DevTime:** Short development time, **CoDesign:** Co-design activities, **CloudComp:** Cloud computing platform, **AreaInt:** Forecast for our area of interest, **Other**: other
- *Dot plots* – Coloured dots correspond to unique respondents and are consistent between all plots.
  Y-axis: Likert scale where 0 = No(t) …, 2: Slight(ly)…, 4: Moderate(ly)…, 6: Considerable(ly)…, 8: Very…, 10: Extremely…

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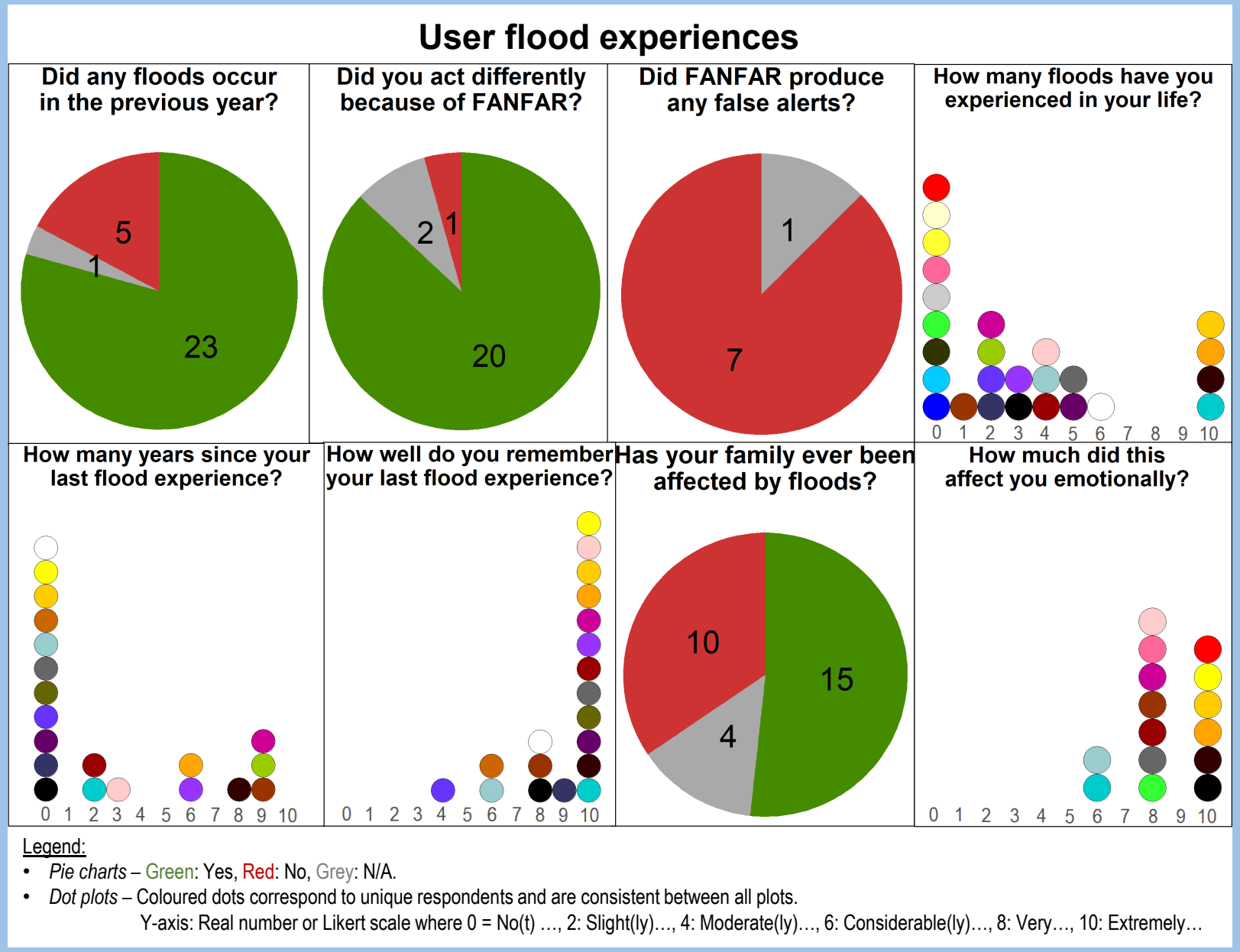
Results from experience survey workshop 2



Please zoom in for details

Legend:

- *Pie charts* – Green: Yes, Red: No, Grey: N/A.
- *Dot plots* – Coloured dots correspond to unique respondents and are consistent between all plots.
  Y-axis: Real number or Likert scale where 0 = No(t) …, 2: Slight(ly)…, 4: Moderate(ly)…, 6: Considerable(ly)…, 8: Very…, 10: Extremely…

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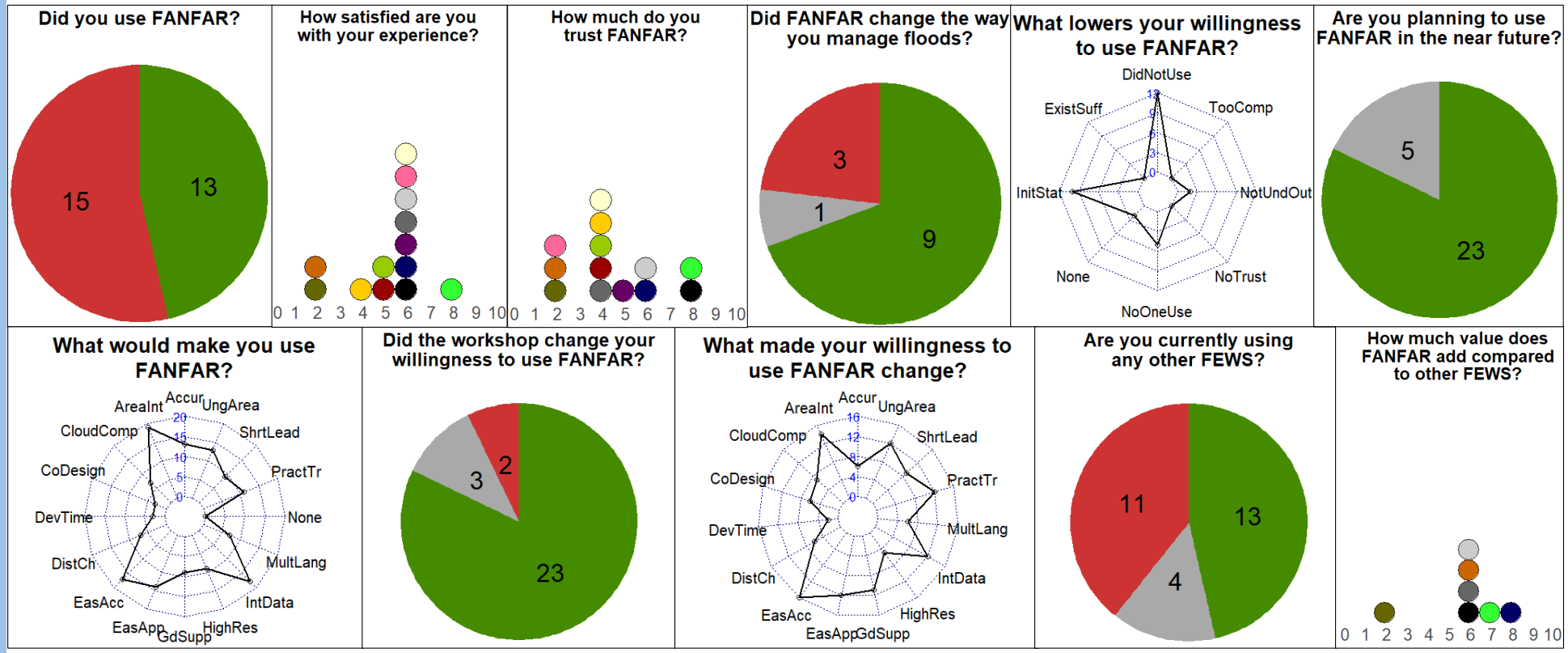
Results from experience survey workshop 3

FANFAR user experiences



Please zoom in for details

Legend:

- *Pie charts* – Green: Yes, Red: No, Grey: N/A.
- *Radar charts* – Numbered axis: frequency (number of participants giving this answer). **DidNotUse:** I did not use FANFAR, **TooComp:** Too complicated, **NotUndOut:** I do not understand the output, **NoTrust:** I don't trust FANFAR, **NoOneUse:** No one uses FANFAR, **None:** Nothing, **InitStat:** Initial state, **ExistSuff:** Existing fews suffice, **Accur:** Accuracy, **UngArea:** Ungaged areas covered, **ShrtLead:** Short lead time, **PractTr:** Practical training available, **MultLang:** Multiple languages, **IntData:** Integration of local observations and satellite data, **HighRes:** High spatial and temporal resolution, **GdSupp:** Good support system, **EasApp:** Info is easy to apply, **EasAcc:** Forecasts easy to access, **DistCh:** Several distribution channels, **DevTime:** Short development time, **CoDesign:** Co-design activities, **CloudComp:** Cloud computing platform, **AreaInt:** Forecast for our area of interest
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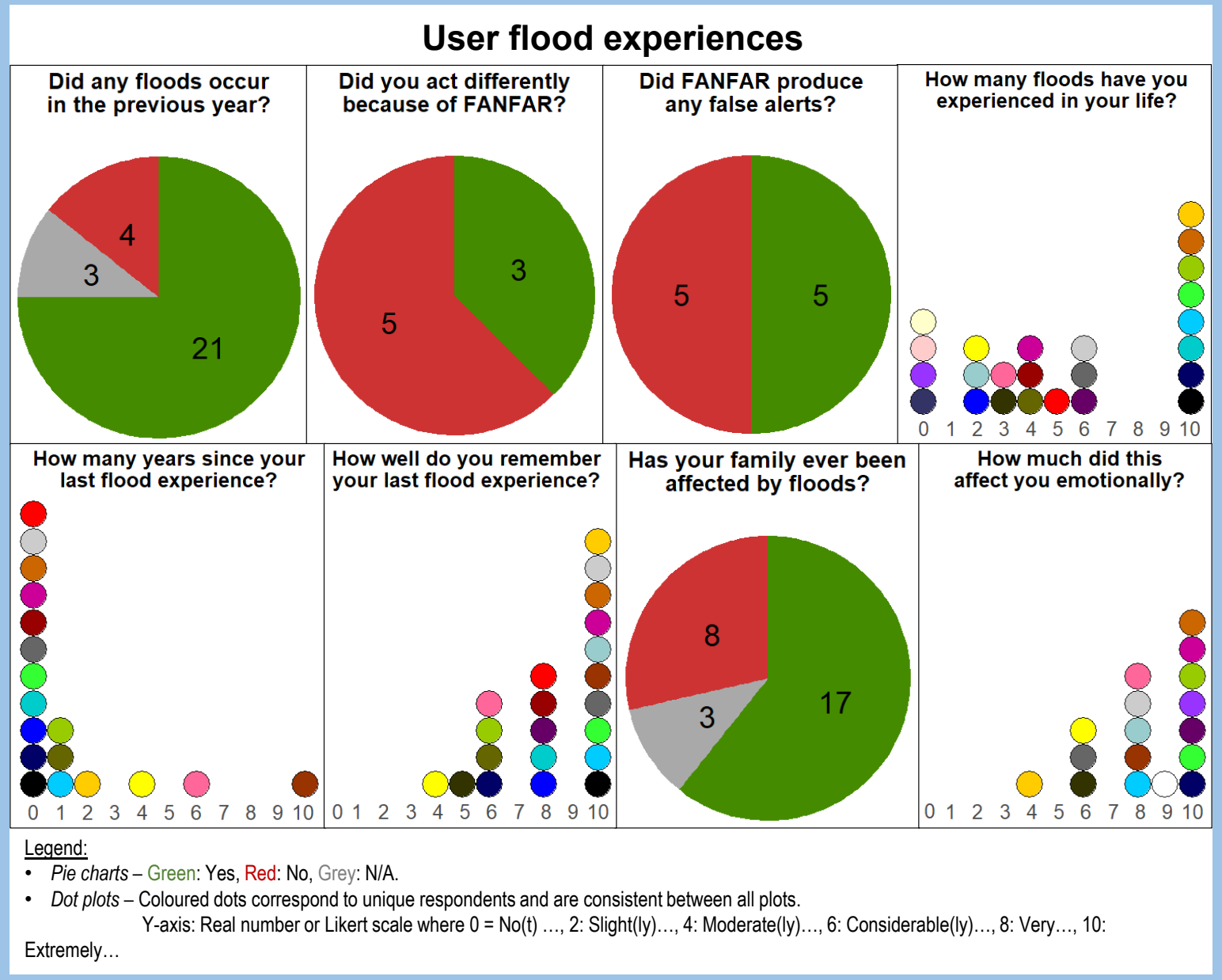
Results from experience survey workshop 3



Legend:

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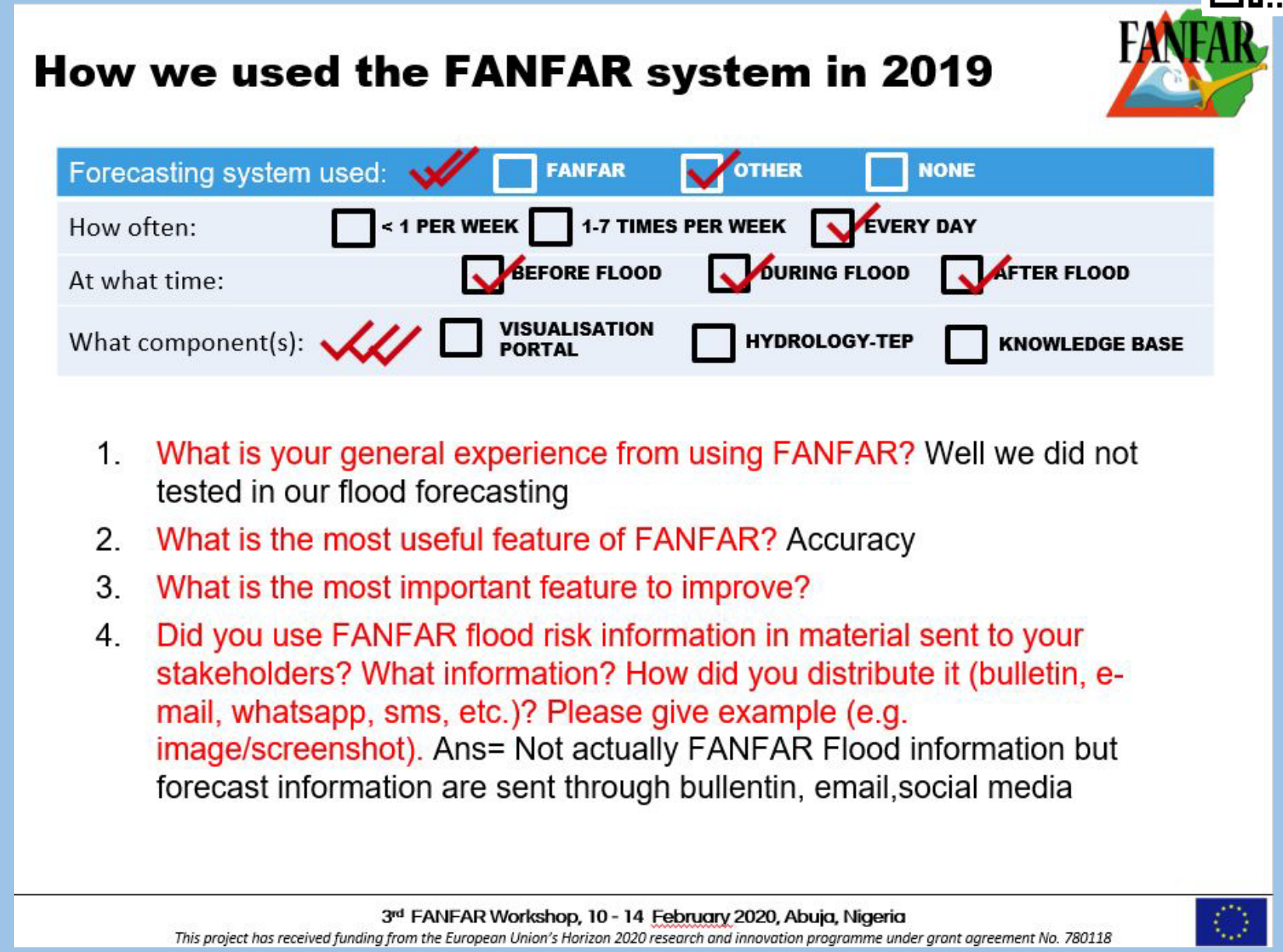
Rainy season evaluation sessions

Example of a slide from a workshop participant during the rainy season evaluation session during workshop 3



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