What is claimed is:

1. An image decoding method performed by a decoding apparatus, the method comprising:

obtaining image information including residual information through a bitstream;

generating reconstructed samples of a current picture based on the residual information; and

generating modified reconstructed samples based on an in-loop filtering process for the reconstructed samples,

wherein the image information includes a sequence parameter set (SPS), and

wherein whether the SPS includes ~~additional information related to virtual boundaries~~information on a number of virtual boundaries and information on positions of the virtual boundaries is determined based on whether the SPS includes subpicture related information.

~~2. The image decoding method of claim 1, wherein the additional information related to the virtual boundaries comprises the number of the virtual boundaries and positions of the virtual boundaries.~~

~~3~~2. The image decoding method of claim 1, wherein ~~the additional information related to the virtual boundaries~~the information on the number of the virtual boundaries comprises information on ~~the~~a number of vertical virtual boundaries~~, information on positions of the vertical virtual boundaries,~~ and information on ~~the~~a number of horizontal virtual boundaries,

wherein the information on the positions of the virtual boundaries comprises information on positions of vertical virtual boundaries and information on positions of ~~the~~ horizontal virtual boundaries.

~~4~~3. The image decoding method of claim 1, wherein the image information comprises a subpicture present flag, and

wherein whether the SPS includes the subpicture related information is determined based on the subpicture present flag.

~~5~~4. The image decoding method of claim 1, wherein the current picture comprises subpictures and tiles, and

wherein coding tree units (CTUs) in one tile belong to the same subpicture.

~~6~~5. The image decoding method of claim 1, wherein the current picture comprises subpictures and tiles, and

wherein coding tree units (CTUs) in one subpicture belong to the same tile.

~~7~~6. The image decoding method of claim 1, wherein the SPS comprises an SPS virtual boundary present flag related to whether the SPS includes ~~the additional information related to the virtual boundaries~~the information on the number of the virtual boundaries and the information on the positions of the virtual boundaries, and

wherein a value of the SPS virtual boundary present flag is determined as 1 based on that the SPS includes the subpicture related information.

~~8~~7. The image decoding method of claim 1, wherein the image information comprises picture header information, and

wherein ~~the additional information related to the virtual boundaries~~the information on the number of the virtual boundaries and the information on the positions of the virtual boundaries ~~is~~are not included in the picture header based on that the SPS includes the subpicture related information.

~~9~~8. The image decoding method of claim ~~8~~7, wherein the SPS comprises ~~the additional information related to the virtual boundaries~~the information on the number of the virtual boundaries and the information on the positions of the virtual boundaries based on that the SPS includes the subpicture related information.

~~10~~9. An image encoding method performed by an encoding apparatus, the method comprising:

generating residual samples for a current block;

generating residual information based on the residual samples for the current block;

generating in-loop filtering related information for reconstructed samples of a current picture; and

encoding image information including the residual information and the in-loop filtering related information,

wherein the image information includes a sequence parameter set (SPS), and

wherein whether the SPS includes ~~additional information related to virtual boundaries~~information on a number of virtual boundaries and information on positions of the virtual boundaries is determined based on whether the SPS includes subpicture related information.

~~11. The image encoding method of claim 10, wherein the additional information related to the virtual boundaries comprises the number of the virtual boundaries and positions of the virtual boundaries.~~

~~12. The image encoding method of claim 10, wherein the additional information related to the virtual boundaries comprises information on the number of vertical virtual boundaries, information on positions of the vertical virtual boundaries, information on the number of horizontal virtual boundaries, and information on positions of the horizontal virtual boundaries.~~

~~13. The image encoding method of claim 10, wherein the image information comprises a subpicture present flag, and~~

~~wherein whether the SPS includes the subpicture related information is determined based on the subpicture present flag.~~

~~14. The image encoding method of claim 10, wherein the image information comprises a subpicture ID present flag, and~~

~~wherein subpictures in the current picture are independently coded based on that a value of the subpicture ID present flag is 1.~~

~~15. The image encoding method of claim 10, wherein the current picture comprises subpictures and tiles, and~~

~~wherein coding tree units (CTUs) in one tile belong to the same subpicture.~~

~~16. The image encoding method of claim 10, wherein the current picture comprises subpictures and tiles, and~~

~~wherein coding tree units (CTUs) in one subpicture belong to the same tile.~~

~~17. The image encoding method of claim 10, wherein the SPS comprises an SPS virtual boundary present flag related to whether the SPS includes the additional information related to the virtual boundaries, and~~

~~wherein a value of the SPS virtual boundary present flag is determined as 1 based on that the SPS includes the subpicture related information.~~

~~18. The image encoding method of claim 10, wherein the image information comprises picture header information, and~~

~~wherein the additional information related to the virtual boundaries is not included in~~

~~the picture header based on that the SPS includes the subpicture related information.~~

~~19. The image encoding method of claim 18, wherein the SPS comprises the additional information related to the virtual boundaries based on that the SPS includes the subpicture related information.~~

~~20~~10. A non-transitory computer-readable storage medium storing a bitstream generated by an image encoding method~~encoded information causing an image decoding apparatus to perform an image decoding method~~, the image ~~decoding~~encoding method comprising:

generating residual samples for a current block;

generating residual information based on the residual samples for the current block;

generating in-loop filtering related information for reconstructed samples of a current picture; and

encoding image information including the residual information and the in-loop filtering related information,

wherein the image information includes a sequence parameter set (SPS), and

wherein whether the SPS includes additional information related to virtual boundaries is determined based on whether the SPS includes subpicture related information.

~~obtaining image information including residual information through a bitstream;~~

~~generating reconstructed samples of a current picture based on the residual information; and~~

~~generating modified reconstructed samples based on an in-loop filtering process for the reconstructed samples,~~

~~wherein the image information includes a sequence parameter set (SPS), and~~

~~wherein whether the SPS includes additional information related to virtual boundaries is determined based on whether the SPS includes subpicture related information.~~

11. A transmission method of data for an image, the method comprising:

obtaining a bitstream for the image, wherein the bitstream is generated based on generating residual samples for a current block, generating residual information based on the residual samples for the current block, generating in-loop filtering related information for reconstructed samples of a current picture, and encoding image information including the residual information and the in-loop filtering related information; and

transmitting the data comprising the bitstream,

wherein the image information includes a sequence parameter set (SPS), and

wherein whether the SPS includes information on a number of virtual boundaries and information on positions of the virtual boundaries is determined based on whether the SPS includes subpicture related information.